

Supplement to the

Mono County
General Plan Land Use Amendments
Final Environmental Impact Report
(FEIR)

SCH #98122016 & #2004102104

Prepared for Pumice Valley Landfill
General Plan Amendment #04-04
Use Permit Application #34-04-09

DRAFT March 23, 2005

Mono County Planning Department

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I. INTRODUCTION

PROJECT DESCRIPTION

Pumice Valley Landfill currently operates on 40 acres of land leased from the Los Angeles Department of Water and Power (LADWP). Mono County, the landfill operator, proposes to expand the property boundaries by approximately 10 acres located to the east of the current boundaries. The proposed expansion area is located on land owned by LADWP that is currently designated Open Space (OS). The landfill site is designated Public and Quasi-Public Facilities (PF). General Plan Amendment 04-04 would redesignate the proposed expansion area from Open Space (OS) to Public and Quasi-Public Facilities (PF).

The Public and Quasi-Public Facilities (PF) land use designation permits solid waste facilities, landfills, and household hazardous waste facilities, subject to Use Permit. Use Permit Application #34-04-09 addresses the following proposed activities for the landfill:

1. Property expansion to the east will provide sufficient soil borrow resources to meet daily, intermediate, and final cover soil needs for the remainder of the facility's life.
2. The proposed design for the final landfill configuration consists of vertical fill over the existing waste footprint and does not propose lateral expansion beyond the limits of the existing waste footprint. The existing waste footprint encompasses approximately 23.9 acres of unlined disposal area. The approved 1995 closure plan includes perimeter slope heights ranging between 12 and 21 feet above surrounding grades; the proposed design includes perimeter slope heights ranging between 12 and 42 feet. The approved capacity for Pumice Valley Landfill is currently 347,112 cubic yards of waste and cover soil; the proposed design results in an estimated site capacity of 701,410 cubic yards for waste and cover soil. The proposed total airspace capacity, including in-place waste, cover soil, and final cover, is 818,840 cubic yards.
3. Construction activities proposed include construction of drainage facilities and storm water retention basins during the operational life of the landfill and the installation of landfill gas vents and landfill gas monitoring wells upon facility closure to supplement the existing environmental monitoring network.
4. Operational activities at the landfill include: 1) the use of state-approved alternative daily cover methods such as synthetic tarps, wood chips, and spray-applied cementitious products; 2) the implementation of an alternative frequency of cover placed in the construction and demolition waste management unit; and, 3) the collection and temporary storage of household hazardous wastes removed from customer loads as part of the load-checking program.
5. The parcel upon which Pumice Valley Landfill is located includes a separately-permitted transfer station owned by Mono County. Waste collected at the Pumice Valley Transfer Station is currently transferred to Benton Crossing Landfill for disposal while on-site disposal is limited to inert debris and construction and demolition waste. Benton Crossing Landfill is projected to reach its site capacity in late 2023. At that time, Pumice Valley Landfill may be utilized as Mono County's regional landfill. In that scenario, waste currently accepted at Benton Crossing Landfill would be diverted to Pumice Valley Landfill through 2028, including all hazardous waste and separated waste (tires, appliances, etc.). The planned use of Pumice Valley Landfill as a regional landfill is intended to account for unforeseen circumstances in the event an alternative for future waste disposal is not identified, permitted, and implemented in the time necessary.

Pumice Valley Landfill currently operates under Solid Waste Facility Permit No. 26-AA-0003, issued in July 1978. The County has applied for a revised Solid Waste Facility Permit (SWFP) that would allow for the waste disposal rates identified in the Report of Disposal Site Information (RDSI) for Pumice Valley Landfill. The existing Solid Waste Facility Permit (approved in 1978) contains the following limitations and specifications:

Types of Waste Permitted for Receipt: Household, commercial, and recreational waste; septic tank pumpings; bulky metallic waste (autos & appliances)

Prohibitions: Hazardous waste, except septic tank pumpings.

Peak Daily Tonnage: 4 tons per day.

Hours and Days of Operation: 8:00 am to 5:00 pm, Sunday, Monday, Thursday, Friday, Saturday.

Peak Daily Number of Vehicles: None specified.

Permitted Area: 40 acres.

Disposal Practice: Trench method.

Total Design Capacity: None specified.

Expected Site Life: 94 years (closure in 2072).

Proposed revisions to the SWFP (requested in 2005) include the following:

Types of Waste Permitted for Receipt: Non-hazardous municipal solid waste, including residential, commercial, institutional, light industrial, and construction and demolition wastes; wood and green waste; appliances and scrap metal; waste tires; non-friable asbestos; household hazardous waste, electronic waste, and universal waste (for management only).

Prohibitions: Hazardous, radioactive, medical, liquid, designated, or other wastes requiring special treatment or handling, except as identified in the RDSI and approved by the enforcement agency and other federal, state, or local agencies.

Permitted Maximum Tonnage: 1,550 tons per year (maximum 110 tons per day).

Permitted Hours of Operation: 7:00 am to 6:30 pm, Monday, Wednesday, Friday, Saturday

Holidays: New Year's Day, July 4th, Thanksgiving, Christmas

Permitted Traffic Volume: 30 vehicles per peak day

Permitted Area: 50 acres

Disposal Practice: Area method.

Total Design Capacity: 818,840 cubic yards

Estimated Closure Year: 2028

The impacts associated with increases in tonnage, traffic volumes, permitted areas, and total design capacity are addressed throughout the DSEIR.

EIR SUPPLEMENT REQUIREMENTS

A supplement to the Mono County General Plan Land Use Amendments Environmental Impact Report is proposed for this project as allowed by Section 15163 (a) of the CEQA Guidelines:

“(a) The Lead Agency may choose to prepare a supplement to an EIR rather than a subsequent EIR if:

- (1) Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR, and

- (2) Only minor additions or changes would be necessary to make the previous EIR adequate for the project as revised."

Supplements to EIRs are intended to augment a previously-certified EIR to the extent necessary to address changed conditions. This supplement to the Mono County General Plan Land Use Amendments Environmental Impact Report addresses State planning law requirements for supplements to previously-approved Environmental Impact Reports (EIRs). Prior environmental and planning documents (e.g., the Mono County Master Environmental Assessment, the Mono County General Plan) are incorporated by reference.

Supplements to EIRs must address the following (CEQA Guidelines Section 15163):

- (b) The supplement to the EIR need only contain the information necessary to make the previous EIR adequate for the project as revised.
- (c) A supplement to an EIR shall be given the same kind of notice and public review as is given to a draft EIR under Section 15087.
- (d) A supplement to an EIR may be circulated by itself without recirculating the previous draft or final EIR.
- (e) When the agency decides whether to approve the project, the decision-making body shall consider the previous EIR as revised by the supplemental EIR. A finding under Section 15091 shall be made for each significant effect shown in the previous EIR as revised.

DOCUMENTS INCORPORATED BY REFERENCE

The Report of Disposal Site Information (RDSI) and the Preliminary Closure and Postclosure Maintenance Plan (PCPMP) for Pumice Valley Landfill are incorporated herein by reference. Together, the RDSI and the PCPMP form the Joint Technical Document for Pumice Valley Landfill.

The RDSI describes the disposal site design, operations, and controls at Pumice Valley Landfill. It includes waste volume calculations, design and construction standards, and operating standards, including cover management, materials handling, and control of nuisances (fire, dust, vectors, noise, litter, drainage and erosion, hazardous waste, etc.).

The PCPMP describes procedures for the closure of the facility and for maintenance of the facility during the postclosure period. It also includes environmental monitoring activities intended to meet standards established by the state.

Insert Drawing 1 from JTD

Figure 1
Location Map

II. PROJECT DESCRIPTION

LANDFILL SETTING

Pumice Valley Landfill is located at 200 Dross Road, approximately 1.8 miles east of the junction of State Highway 120(E) and US Highway 395, south of the community of Lee Vining in the Mono Basin in central Mono County (see Figure 1, Location Map). The landfill is located approximately 3.9 miles southeast of Lee Vining in the NW $\frac{1}{4}$, NW $\frac{1}{4}$ of Section 36, Township 1 North, Range 26 East, Mount Diablo Base and Meridian (MDB&M).

Property immediately surrounding the landfill site is owned by the Los Angeles Department of Water and Power (LADWP). Those lands are designated Open Space (OS) and are managed primarily for grazing and watershed protection. Land further removed from the landfill site is public land managed either by the US Forest Service or the Bureau of Land Management. Those public lands are designated Resource Management (RM) and are managed primarily for watershed protection, visual resources, and wildlife. Public lands surrounding Mono Lake comprise the Mono Basin National Forest Scenic Area and are managed primarily for visual resources and watershed protection. Two gravel quarries are located west of the landfill boundaries along Rush Creek, with the nearest quarry approximately 0.5 mile west of the landfill. Those properties are designated Resource Extraction (RE).

The landfill is located in a rural, undeveloped setting in the Mono Basin, a visually open area with long sight lines. Vegetation in surrounding areas is primarily sagebrush scrub. The landfill is situated between ephemeral drainages on relatively flat ground elevated above Mono Lake (RDSI, Appendix B, Drawing 2, Existing Topography). Although the area is open, localized topography varies enough to provide some topographic screening of the landfill from various viewpoints.

The prevailing wind direction at the landfill is from the southwest. Local winds are calm (less than 1 mile per hour) approximately 43 percent of the time. The majority of precipitation on-site occurs during the months of November through March, with much of that in the form of snow. Average annual precipitation at the nearest meteorological weather station in Lee Vining is 13.01 inches. Average monthly temperatures range from 29.7°F in January to 67.9°F in July. Site soils consist primarily of basin sediments including gravelly sand, silt, and clay. Unconfined ground water typically occurs in unconsolidated alluvial and fluvial deposits between 248 and 268 feet below ground surface (bgs).

The landfill is accessed from US 395 and State Route 120(E) on paved roads maintained year-round.

FACILITY OVERVIEW

PERMITS

Pumice Valley Landfill is a Class III municipal solid waste landfill, permitted under Solid Waste Facility Permit No. 26-AA-0003, issued in 1978. The site is also authorized to operate as a municipal solid waste landfill by the Lahontan Regional Water Quality Control Board (LRWQCB) under Waste Discharge Requirements WDID No. 6B260300011.

The purpose of the revised SWFP is to make the permit consistent with state minimum standards and with the operations proposed in the RDSI and the Use Permit application. The proposed revisions to the SWFP address conditions at Pumice Valley Landfill through mid-2023, before any waste is transferred from Benton Crossing Landfill. If and when Pumice Valley Landfill becomes a regional landfill for the county, the SWFP will be amended to reflect the conditions associated with its operation as a regional landfill. This EIR discusses the impacts associated with increases in tonnage,

traffic volumes, permitted boundaries, and total design capacity for the landfill if and when it becomes the county's regional landfill in 2023. As a result, the tonnage and traffic figures analyzed in the EIR are higher than those requested in the SWFP revisions. In addition, the EIR addresses the total waste received at the landfill site, including the waste processed through the transfer station. The proposed permit revisions for the SWFP address only the tonnage and traffic for the landfill, not the tonnage and traffic associated with the transfer station since the transfer station is permitted separately.

Proposed revisions to the SWFP (requested in 2005) include the following:

Types of Waste Permitted for Receipt: Non-hazardous municipal solid waste, including residential, commercial, institutional, light industrial, and construction and demolition wastes; wood and green waste; appliances and scrap metal; waste tires; non-friable asbestos; household hazardous waste, electronic waste, and universal waste (for management only).

Prohibitions: Hazardous, radioactive, medical, liquid, designated, or other wastes requiring special treatment or handling, except as identified in the RDSI and approved by the enforcement agency and other federal, state, or local agencies.

Permitted Maximum Tonnage: 1,550 tons per year (maximum 110 tons per day).

Permitted Hours of Operation: 7:00 am to 6:30 pm, Monday, Wednesday, Friday, Saturday

Holidays: New Year's Day, July 4th, Thanksgiving, Christmas

Permitted Traffic Volume: 30 vehicles per peak day

Permitted Area: 50 acres

Disposal Practice: Area method.

Total Design Capacity: 818,840 cubic yards

Estimated Closure Year: 2028

WASTE TYPES

Pumice Valley Landfill accepts the following general types of waste for disposal or management:

- Non-hazardous municipal solid waste in accordance with 27 CCR 20220; and
- Non-friable asbestos-containing wastes (ACW) in accordance with Section 25143.7 of the California Health and Safety Code.

In addition to typical non-hazardous municipal solid waste, the landfill accepts the following types of source-separated waste for management through its waste diversion program:

- Wood waste;
- Scrap metal;
- White goods and appliances;
- Waste tires;
- Corrugated cardboard and plastic, glass, and aluminum beverage containers; and,
- Cathode Ray Tubes (CRTs), Consumer Electronic Devices (CEDs), household hazardous waste (HHW), and used motor oil and filters.

LANDFILL OPERATIONS & TRANSFER STATION

Disposal operations at Pumice Valley Landfill occurred via trench and area-fill disposal methods until April 2001 when a temporary transfer station was installed to transfer residential and commercial municipal waste to Mono County's regional Benton Crossing Landfill. A permanent transfer station was constructed and has been in operation since August 2004. The transfer station is operated under contract with Mammoth Disposal, Inc., which is responsible for providing all site personnel, equipment, sanitary facilities, litter control, and other facility support. On-site disposal is currently limited to inert debris and construction and demolition waste in an above-grade disposal area. On-site

disposal operations are managed and performed by personnel and equipment from the Mono County Department of Public Works (Public Works).

The Pumice Valley Landfill serves the communities of Lee Vining, June Lake, Mono City, and surrounding unincorporated areas.

The Report of Disposal Site Information (RDSI) for Pumice Valley Landfill includes planning and design components that address its use as the County's regional landfill after the Benton Crossing Landfill reaches the end of its life in 2023. It is assumed that Pumice Valley Landfill will receive the predicted waste stream from the Benton Crossing Landfill service area for approximately five years from 2024 through 2028. This planning approach is intended to account for unforeseen circumstances in the event a future alternative disposal site is not identified and permitted in the time necessary.

Once waste disposal is completed on-site, all site structures and facilities not needed during the postclosure period or for the remaining transfer station will be dismantled and removed from the site. It is anticipated that the only facilities existing at the time of closure that will remain on-site throughout the postclosure maintenance period will be the truck scale, scalehouse, and other transfer station facilities, the environmental monitoring and venting systems, components of the storm water management system, access roads, perimeter fencing, and the access gate.

WASTE QUANTITIES

Pumice Valley Landfill and Transfer Station received an average of 7.2 tons of waste per day between 2002 and 2004 for management or disposal.

- Approximately 61 percent, by weight, of waste received (4.44 tons per day, TPD) was processed through the landfill;
- Approximately 39 percent, by weight, of waste received (2.80 TPD) was processed through the on-site transfer station;
- Of the waste managed by the landfill, approximately 46 percent (2.03 TPD) was diverted and 54 percent (2.40 TPD) was landfilled;
- Of the waste processed through the transfer station, approximately 24 percent (0.68 TPD) was transferred off-site and 76 percent (2.11 TPD) was diverted;
- Waste diverted from the transfer station was comprised of nearly 88 percent wood, with lesser amounts of scrap metal (8.8 percent), white goods (2.4 percent) and waste tires, cardboard, used motor oil, and CRTs (<1 percent).

WASTE VOLUMES

For the two-year period from July, 2002 through June, 2004, the Pumice Valley Landfill and Transfer Station received an annual average of 1,465 tons of waste, resulting in approximately 487 tons of waste per year landfilled on-site, 139 tons transferred to Benton Crossing Landfill for disposal, and 839 tons of waste diverted. Table 2.2 in the Report of Disposal Site Information (RDSI) for the Pumice Valley Landfill contains detailed data of the amounts and types of waste received at the landfill, including average daily and average annual waste quantities for each category of waste type.

The draft Solid Waste Facilities Permit (SWFP) for Pumice Valley Landfill includes a maximum tonnage of 1,550 tons per year (maximum 110 tons per day) to reflect the total waste volume projected to be received in the year 2023, before the countywide waste stream is transferred from Benton Crossing Landfill. The figure of 1,550 tons per year reflects the total waste (landfilled and diverted) estimated to be received at the landfill in 2023.

As noted in the previous section, approximately 61 percent of the waste currently received annually at Pumice Valley Landfill is processed through the landfill and approximately 39 percent is processed through the on-site transfer station. Of the waste managed by the landfill, approximately 46 percent is

diverted and approximately 54 percent is landfilled. Of the waste processed through the transfer station, approximately 24 percent is transferred off-site and 76 percent is diverted.

The site life/loading rate calculations in Table E-1 of the Report of Disposal Site Information (RDSI) project the disposal volumes over the remaining life of the landfill; those calculations project a total of 836 tons of waste landfilled in 2023, before the countywide waste stream is transferred from Benton Crossing Landfill. It is important to note that the following calculations are for the landfill only; they do not include waste volumes anticipated at the transfer station portion of the Pumice Valley facility.

- The total amount of landfilled waste is estimated to increase from 685 tons per year in 2004 to 836 tons per year in 2023. The resulting daily disposal rate is calculated to increase from 3.3 tons per day in 2004 to 4.1 tons per day in 2023.
- The total amount of diverted waste (at the landfill, does not include diverted waste processed through the transfer station) is estimated to increase from 585 tons per year in 2004 to 714 tons per year in 2023. The resulting daily disposal rate is calculated to increase from 2.9 tons per day in 2004 to 3.5 tons per day in 2023.
- The total amount of waste (landfilled and diverted) is estimated to increase from 1,270 tons per year in 2004 to 1,550 tons per year in 2023. The resulting daily disposal rate is calculated to increase from 6.2 tons per day in 2004 to 7.6 tons per day in 2023.

The requested maximum tonnage in itself is not an environmental effect. It creates other environmental effects related primarily to traffic and to the visual impacts of the final configuration of the landfill. It may also create the need for additional household hazardous waste storage areas.

It is important to note that the permitted maximum tonnage identified in the draft SWFP is the amount of tonnage anticipated in 2023, before the countywide waste stream is transferred from Benton Crossing Landfill. It is not an annual amount anticipated every year for the life of the landfill. The maximum amount anticipated during the remaining life of the landfill is reflected in the SWFP so the project will be in compliance with the permit over the life of the project.

HOURS OF OPERATION

Pumice Valley Landfill is currently open to the public eight hours per day, four days per week. The landfill operates approximately 204 days per year. The proposed revisions to the SWFP request operating hours of 7:00 am to 6:30 pm, four days per week (Monday, Wednesday, Friday, & Saturday), approximately 204 days per year.

The landfill operates during daylight hours, in a rural area, with no sensitive noise or light receptors in the vicinity. The hours of operation for the landfill in themselves are not an environmental effect and have no direct impact on identified environmental issues. The impacts resulting from the operation of the landfill (traffic, noise, air quality) are discussed in appropriate sections of this DSEIR.

DAILY & SEASONAL VARIATION IN DISPOSAL QUANTITIES

Daily loading of waste at Pumice Valley Landfill and Transfer Station is highly dependent on the season and the nature of construction projects being performed within the service area of the Pumice Valley disposal site. The following data from July, 2002 through June, 2004 illustrate the seasonal variation in waste loading (RDSI, p. 7):

Total Received, Annual Average	7.23 TPD
Total Received, Average Summer Day (May 1-Sept. 30)	11.81 TPD
Total Received, Average Winter Weekday (Oct.1-April 30)	3.83 TPD
Landfill Received, Annual Average	4.44 TPD
Landfill Received, Peak Day	110.44 tons

Transfer Station Received, Annual Average	2.80 TPD
Transfer Station Received, Peak Day	30.12 tons

The RDSI for Pumice Valley Landfill (RDSI, p. 8) also notes that:

“The peak landfill day during this period [July, 2002 through June, 2004] occurred in October, 2002, when 110.44 tons was received; the peak transfer station day occurred in February, 2003, with 30.12 tons received.”

ESTIMATED WASTE FLOW AND SITE LIFE

Short-term waste flows were calculated based on detailed records of waste received between 2002 and 2004 and population growth projections for Mono County. Both short-term and long-term waste flows were calculated using California State Department of Finance population projections for Mono County.

Detailed results of the waste flow calculations are contained in Table 2.3 and Appendix E of the RDSI for Pumice Valley Landfill. The total annual amount of waste landfilled at Pumice Valley Landfill (Note: this does not include the tonnage processed through the transfer station) is estimated to increase from 685 tons per year in 2004 to 836 tons per year in 2023 (RDSI, Appendix E, Table E-1a). The resulting daily disposal rate is calculated to increase from 3.3 tons per day in 2004 to 4.1 tons per day in 2023 (RDSI, Appendix E, Table E-1a). Late in 2023, Benton Crossing Landfill is projected to reach capacity and the waste stream currently being landfilled there may be diverted to Pumice Valley Landfill. In 2023, 4,050 tons of waste may be re-directed from Benton Crossing Landfill. In 2024, 39,300 tons may be re-directed, increasing the daily disposal rate to 112.1 tons/day. By 2028, the amount re-directed from Benton Crossing is estimated to increase to 41,300 tons annually, resulting in a daily disposal rate of 117.8 tons/day.

Based on the loading rate calculations presented in Appendix E of the RDSI, the remaining capacity of Pumice Valley Landfill is anticipated to accommodate the waste disposal requirements of the service area through the year 2028.

EXISTING FACILITIES

Existing facilities at Pumice Valley Landfill and Transfer Station include the following:

- Access road, entrance gate, and perimeter fencing;
- Scalehouse and 70-foot truck scale;
- Transfer station;
- Office/storage building;
- Recycling storage areas;
- Household hazardous waste storage locker;
- Used oil storage tank; and,
- Ground water monitoring wells.

GENERAL DESIGN PARAMETERS

The landfill is designed to serve the residents and businesses of Lee Vining, June Lake, Mono City, and outlying unincorporated areas of Mono County. Commercial collection services are becoming available in these communities, but many residents still self-haul their waste. The County has transfer stations in the communities of Benton, Bridgeport, Chalfant, Lee Vining (Pumice Valley), Paradise, and Walker. Mammoth Disposal, Inc., operates the transfer stations under contract to the County.

The proposed landfill design includes a vertical fill area over the existing waste footprint. The landfill is unlined and will be covered at closure by a final cover comprised of a geosynthetic clay liner (GCL) overlain by a growth medium/erosion layer.

The landfill is designed to provide sufficient disposal capacity for the existing and projected service population through the year 2028. The landfill design incorporates a sitewide drainage control system designed to satisfy state performance standards and to accommodate the predicted storm water flows generated by a 100-year, 24-hour precipitation event without significant site erosion or washout of waste.

PERSONNEL

The transfer station is currently staffed with one full-time gate attendant provided under contract by Mammoth Disposal, Inc.; tasks related to landfill operation are performed by employees from Public Works' Road District 3 in Lee Vining, consisting of three equipment operators and one supervisor. Equipment operators from Public Works' four other Road Districts are utilized as necessary to complete site tasks. Personnel from Benton Crossing Landfill are also used, as needed, for stockpile management, materials processing, waste compaction and covering, and maintenance. Personnel from the County's Parks and Facilities Division are utilized, as necessary, for maintenance projects. Typically, two equipment operators are utilized for waste compaction and covering activities.

SPREADING AND COMPACTION

Currently, compaction and cover of construction and demolition waste occurs on a quarterly basis, at a minimum. In summer months, compaction and cover may occur more frequently, as necessary to manage the disposal area. Solid waste is spread in loose and relatively thin layers and compacted using three to five passes by a bulldozer. During emergencies and when and if the Benton Crossing Landfill waste stream is re-directed to the Pumice Valley Landfill, solid waste will be spread in loose layers approximately 24 inches thick and compacted using 3 to 5 passes. The layers to be compacted are spread to a slope of 3H:1V for dozer compaction and 4H:1V or flatter when a landfill compactor is assigned to the site (2023 and later), in order to take advantage of the compactor's improved performance on flatter slopes. The working face is built up in compacted layers to a total height of approximately eight to 10 feet.

COVER MATERIALS

The source for future landfill cover soil is a borrow pit located immediately east of the disposal area. The landfill also accepts soil, gravel, road grindings, and similar materials generated by road construction and other projects. This material is stockpiled near the working face and used as necessary for daily cover. Alternative daily covers (ADCs) that meet state requirements may also be used (e.g., tarps, geosynthetics, foam, processed green material, sludge or sludge-derived materials, compost material, processed C&D waste, shredded tires, or spray-applied cementitious products). ADCs used at Benton Crossing Landfill and anticipated to be used at Pumice Valley Landfill in the future include synthetic tarps and the Posi-Shell® Cover System.

COVER FREQUENCY

Inert debris and construction and demolition waste deposited in the active disposal cell is stockpiled for a period not exceeding 90 days, at which time it is spread, compacted, and covered with a minimum of 12 inches of soil. Although the working face is covered more frequently during times of heavy use (e.g., summer months), cover soil is applied and compacted at least once during each of the first weeks of February, May, August, and November.

In the future, when municipal waste is accepted for disposal on-site, ADC will be applied over the active MSW disposal face at the end of each operating day, approximately six days per week. A minimum of 6 inches of compacted, earthen material will be applied to the full active face on the seventh day of the week, or more often if necessary because of weather conditions, the size of the working face, or other factors. The working face will be narrowed to a two-tarp width (roughly 45-50

feet) at the end of the operating day by applying and compacting cover soil and the remainder will be covered with synthetic tarps.

An intermediate cover of 12 inches of soil is applied over filled areas not expected to receive additional waste disposal for more than 180 days. A three- to six-inch layer of wood chips generated through the on-site wood waste diversion program may then be applied over intermediate soil cover to prevent erosion of cover material. The top of each waste lift is covered by intermediate cover when full lift height is achieved and as the active face progresses according to the fill sequencing plan.

WASTE DIVERSION

Portions of the waste stream are diverted from disposal to comply with solid waste regulations or to meet state-mandated diversion goals. Materials are either delivered source-separated or are removed through salvaging activities performed on-site by landfill personnel. The procedures employed for management of various wastes at Benton Crossing Landfill will be adopted at Pumice Valley Landfill should the facility become the County's regional solid waste facility at the end of 2023.

- **Scrap metal** is loaded into the debris box at the transfer station and then transferred to the Benton Crossing Landfill where it is processed, baled, and removed from the site by a licensed contractor to a recycling site.
- **Appliances** are loaded into the debris box at the transfer station. At Benton Crossing Landfill they are separated into refrigerated and non-refrigerated units and stockpiled on-site. A licensed vendor contracted by the County is periodically scheduled to remove Freon, motor oil, capacitors, mercury switches, and other hazardous materials. The appliances are then combined with the scrap metal and removed by a licensed contractor to a recycling site.
- **Auto bodies, mobile homes, and campers** are not accepted at Pumice Valley Landfill. At Benton Crossing Landfill they are temporarily stockpiled on-site and periodically processed. Landfill personnel drain fluids and remove tires and batteries. The County's contract vendor removes hazardous materials such as Freon. The County's contract metal salvager periodically delivers a car-crusher to the site, crushes the vehicles, and hauls them to a recycling site. The County also hauls auto bodies to an auto salvager in Benton. Appliances are removed from mobile homes and campers, metal is salvaged for the scrap metal stockpile, and the remainder of those vehicles is crushed and buried in the C&D disposal area.
- **Wood waste** is stockpiled for periodic chipping with a horizontal shredder. Wood chips may be used for protecting intermediate cover as a deterrent to wind erosion, as an alternative daily cover, as erosion protection for final cover, or they may be made available to the public or public agencies.
- **Passenger car and truck tires** are deposited in the debris box at the transfer station, then hauled to Benton Crossing Landfill where they are stockpiled, counted, and placed in a box trailer stationed at the site by the County's contract tire hauler. When the trailer has reached capacity, the contract hauler is scheduled to remove the trailer and replace it with an empty trailer. The waste tires are typically transported to a cement kiln for use as fuel. Oversized tires, such as those for wheel loaders and tractors, are stockpiled and removed separately.
- **Hazardous household waste** is accepted from local residents and stored in a pre-fabricated hazardous waste locker. Staff from Benton Crossing Landfill periodically collect the stored material and transport it to Benton Crossing Landfill. At Benton Crossing Landfill, some materials, such as paints, stains, and flammables, are consolidated in bulk containers, such as 55-gallon drums, by landfill personnel. When a sufficient volume is collected, a licensed hazardous waste hauler is contracted to perform final bulking and packaging and the load is removed for delivery to permitted hazardous waste recycling, treatment, or disposal facilities, as appropriate.
- **Lead-acid batteries** are collected, stored, and removed in the same way as household hazardous waste, except that the battery stockpile at the Benton Crossing Landfill is either

periodically removed by a licensed battery recycler upon notification by the County or the batteries are hauled by landfill personnel to a recycler in Bishop, California.

- **Anti-freeze, and universal wastes** are collected, stored, and removed in the same way as household hazardous waste.
- **Used motor oil and oil filters** are stored and removed for recycling by a licensed transporter.
- **Cardboard** is stored in an enclosed 12 cubic yard debris box and, when full, removed for recycling by Public Works personnel.
- **Plastic, glass, and aluminum beverage containers** are collected in an enclosed roll-off recycling container and periodically removed by Mammoth Disposal, Inc., and hauled to their recycling facility in Mammoth Lakes for consolidation.
- **Televisions and computer monitors with cathode ray tubes (CRTs)** are temporarily stockpiled in the storage building until they are removed to Benton Crossing Landfill, where they are stacked on pallets, plastic-wrapped, until a full tractor-trailer load is reached and they are transported by a licensed hauler to a permitted processing and recycling facility.
- **Consumer electronic devices (CEDs)** are temporarily stockpiled in the storage building until they are removed to Benton Crossing Landfill where they are stored loose in containers and periodically removed by a licensed hauler to a permitted processing and recycling facility, if possible, at the same time and on the same load, as CRT removal.

In general, the periodic removal of salvageable materials is coordinated at a frequency specific to each material so that the risk of fire and the potential for impacts to public health and safety are minimized.

WASTE HANDLING

All customers arriving at Pumice Valley Landfill and Transfer Station are stopped at the scalehouse where the attendant performs a visual inspection to determine the presence of prohibited or hazardous wastes. Approved loads with residential and commercial waste are directed to the compactor at the transfer station. This practice will continue should the countywide waste stream be redirected from Benton Crossing Landfill to prevent public access to the working face. Scrap metal, tires, appliances, and bulky items are directed to the 40-cubic-yard debris box located next to the compactor. Customers with inert debris and construction and demolition waste go the active working face of the landfill.

In addition to non-hazardous household and commercial waste and construction and demolition waste, the following wastes accepted by the landfill are handled as follows:

- **Non-Friable Asbestos-Containing Waste (ACW)**. This is currently not accepted for disposal at Pumice Valley Landfill but is diverted to Benton Crossing Landfill where ACW is handled on a case-by-case basis in accordance with recommendations from the Mono County Health Department. The waste is delivered to the dead animal monofill there and immediately covered with soil.
- **Ash**. Ash from residential fireplaces and wood stoves is directed to the soil stockpile adjacent to the construction and demolition working face. Once cooled to ambient temperatures, it is worked into the cover material placed over the disposal area on a quarterly basis.
- **Medical Waste**. Treated medical waste rendered as solid waste is accepted for disposal with the municipal solid waste stream; it is hauled to Benton Crossing Landfill for burial. Untreated medical waste is not accepted.
- **Inert Waste**. Inert waste is segregated from municipal waste and deposited in the landfill's active disposal area.

NUISANCE CONTROL

Pumice Valley Landfill utilizes a number of practices to minimize public nuisances, as follows:

- **Fire.** A stockpile of cover soil is maintained in the vicinity of the working face, a 2,000-gallon water truck is available at the Road District 3 (Lee Vining) shop, a 4,000-gallon water truck is available from Benton Crossing Landfill (to be re-assigned to Pumice Valley should it become the County's regional landfill), and fire extinguishers are installed in all structures and equipment on-site. Transfer station and Public Works personnel are trained in fire prevention and suppression activities.
- **Leachate.** The landfill does not include a base liner or leachate collection and recovery system. Generation of contact water is minimized through the application of daily cover and the diligent execution of grading practices that direct storm flows away from the active disposal area.
- **Dust Control.** Primary access roads are paved, as is the entire transfer area. Internal access roads are constructed from compacted asphalt grindings. Fugitive dust on-site is minimal and is controlled with watering as necessary. Dust generation from cover surfaces is minimized through the application of wood chips.
- **Vectors.** Because municipal solid waste is not currently disposed on-site, there is little to attract vectors. Compaction and soil cover reduces vector access into and harborage in the waste mass. Proper surface grading to promote drainage and prevent ponding, as well as liquid waste disposal restrictions, minimize the presence of standing water and potential insect breeding areas.
- **Drainage and Erosion.** The landfill design includes perimeter and internal run-off control facilities designed to collect and control precipitation and storm flows resulting from the 100-year, 24-hour storm event. Construction of the storm water control system will develop throughout the operational life of the landfill.
- **Litter.** Wind-blown litter is picked up on a daily basis. During MSW disposal operations, a portable, semi-permanent, five-foot-high wire mesh fence will be installed around the working face and will be moved as necessary to encompass the downwind boundary of the active working face and to minimize the escape of blowing litter.
- **Noise.** The landfill is operated only during daylight hours. All landfill equipment is equipped with noise attenuation devices.

TRAFFIC

Traffic to both the landfill and the transfer station at the Pumice Valley disposal site varies seasonally as noted below (based on data collected from May, 2001, through February, 2005):

Annual Average Daily Traffic	15.7 vehicles/day
Average Daily Traffic, Mondays	15.6 vehicles/day
Average Daily Traffic, Wednesdays	16.3 vehicles/day
Average Daily Traffic, Fridays	15.2 vehicles/day
Average Daily Traffic, Saturdays	15.6 vehicles/day
Peak Average Day	18.6 vehicles/day (Wed., July)

Traffic does not vary significantly by day of week or month. However, a relatively large local construction project can dramatically impact site traffic patterns over a short period of time. General observations and a review of gate receipts indicate that the vast majority of vehicles entering the site, and therefore the majority of the waste, is from private self-haulers. During a large local construction project, contractor or public agency vehicles will predominate.

PROJECT OBJECTIVE

The objective of the project is to expand the property boundaries and the Public Facilities (PF) land use designation at Pumice Valley Landfill to allow for sufficient cover soil resources, the installation and maintenance of additional environmental monitoring devices, and to permit a variety of landfill activities on-site to meet the needs of the waste disposal requirements of the service area through the year 2028. The project includes a contingency scenario in which the waste stream from the County's current regional landfill would be re-directed to Pumice Valley Landfill for a five-year period beginning in late 2023. Meeting the project objective will require approval of General Plan Amendment 04-04 and Use Permit 34-04-09.

III. ENVIRONMENTAL ANALYSIS

PURPOSE OF THE ANALYSIS

The following chapter determines if there are potentially significant impacts on the environment resulting from the implementation of the project; mitigation measures are proposed which can reduce or eliminate any such impacts. Since this is a supplement to a previously-approved EIR, this analysis summarizes the environmental analysis from the Mono County General Plan Land Use Amendments FEIR, supplements that analysis where necessary, reiterates mitigation measures identified in the Mono County General Plan Land Use Amendments FEIR, and examines alternatives and cumulative impacts.

PROJECT INFORMATION

Landowner:	Los Angeles Department of Water and Power (LADWP)
Landfill Operator:	Mono County Department of Public Works
Solid Waste Facility Permit No.:	SWIS #26-AA-0003
Waste Discharge Requirements No.:	WDID #6B260300011
Area of Existing Landfill:	40 acres leased from LADWP
Expansion Area:	10 acres on land leased from LADWP
Disposal Area:	23.9 acres
Existing Uses:	Landfill
Surrounding Uses:	Open space
Access:	State Route 120(E) to Dross Road
Water Source:	Bottled water
Sewage Disposal:	Portable toilet
Energy Sources:	Solar panels and battery pack for the truck scale and printer; power generator for the stationary compactor

ACTIONS INITIATING THE EIR SUPPLEMENT

Pumice Valley Landfill currently resides on approximately 40 acres of land leased from the Los Angeles Department of Water and Power (LADWP). Mono County, the landfill operator, proposes to expand the property by approximately 10 acres to the east of the current boundaries. The proposed expansion area is located on land owned by LADWP that is currently designated Open Space (OS). The landfill site is designated Public and Quasi-Public Facilities (PF). Specific regulatory actions required for the project include:

1. Adoption of General Plan Amendment #04-04 to redesignate the 10 acres from Open Space (OS) to Public and Quasi-Public Facilities (PF).
2. Approval of Use Permit Application #34-04-09.

The “project” analyzed in this Supplemental EIR is the expansion of the property boundaries and the Public Facilities (PF) land use at Pumice Valley Landfill to allow for the installation and maintenance of additional environmental monitoring devices and to permit a variety of landfill activities on-site to meet the needs of the waste disposal requirements of the service area through the year 2028. The project includes a contingency scenario in which the waste stream from the County’s current regional landfill would be diverted to Pumice Valley Landfill for a five-year period beginning in late 2023.

Meeting the project objective will require approval of General Plan Amendment 04-04 and Use Permit 34-04-09.

AGENCIES REQUIRED TO ACT ON THE PROJECT

Mono County, as the Lead Agency for the project, is responsible for processing and considering approval of the General Plan Amendment and the Use Permit, as well as certifying the adequacy of the Supplement to the EIR. There are no other agencies that will be required to act on the General Plan Amendment and the Use Permit. The Supplement to the EIR will provide project environmental information for other state and local agencies when evaluating their issuance of a revised Solid Waste Facilities Permit and revised Waste Discharge Requirements which are being considered to make them consistent with current operations and state regulations governing solid waste landfill operations.

METHODOLOGY

The following environmental analysis is based on review of the project plan documents, review of relevant local plans and policies, consultation with interested agencies, review of pertinent environmental data, and review of previously prepared environmental documents for projects in the vicinity.

ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION

The following analysis summarizes the environmental analysis from the Mono County General Plan Land Use Amendments EIR, supplements that analysis where necessary, identifies mitigation measures, and examines project-specific alternatives and cumulative impacts.

LAND USE

Setting. The project site is located in the Mono Basin, approximately 3.9 miles southeast of Lee Vining and approximately 2.5 miles south of the southern shore of Mono Lake. The landfill is located at 200 Dross Road off State Highway 120(E), approximately 1.8 miles northeast of its junction with US Highway 395, which is 5.4 miles south (by road) of the community of Lee Vining. Rush Creek is located approximately 0.6 miles to the northwest and two gravel quarries are located adjacent to Rush Creek approximately 0.5 miles west of the landfill. Land surrounding the project site on all sides is open space, used primarily for wildlife habitat, watershed protection, grazing, and dispersed recreation.

Property immediately surrounding the landfill site is owned by the Los Angeles Department of Water and Power (LADWP). Those lands are designated Open Space (OS) and are managed primarily for grazing and watershed protection. Land further removed from the landfill site is public land managed either by the US Forest Service or the Bureau of Land Management. Those public lands are designated Resource Management (RM) and are managed primarily for watershed protection, visual resources, and wildlife. Public lands surrounding Mono Lake comprise the Mono Basin National Forest Scenic Area and are managed primarily for visual resources and watershed protection. Two gravel quarries are located approximately 0.5 miles west of the landfill boundaries. Those properties are designated Resource Extraction (RE).

The intent of the Open Space (OS) designation is to:

“...protect and retain open space for future generations. These lands may be valuable for resource preservation (e.g., visual open space, botanical habitat, stream environment zones, etc.), low-intensity recreational uses, mineral resources, or other reasons.”
(Mono County Land Development Regulations, Open Space Designation)

Permitted uses within the Open Space designation include crop and tree farming, trails for biking, walking, skiing, and equestrian use, wildlife preserves, botanical preserves and similar uses, and single family dwellings. Uses permitted subject to Use Permit include recreational areas requiring significant modification of the natural landscape (e.g., golf courses, tennis courts, commercial stables), accessory buildings and uses, water storage tanks, and mineral exploration activities.

The Preliminary Closure and Postclosure Maintenance Plan (PCPMP) for Pumice Valley Landfill notes that “it is anticipated that following site closure and completion of the postclosure maintenance period, the landfill property will be changed back to an ‘Open Space’ designation in accordance with the County General Plan” (PCPMP for Pumice Valley Landfill, p. 4).

Land Use Impacts. The Pumice Valley Landfill site is currently disturbed throughout as the result of past landfill activities. The transfer station and landfill entrance are located in the southwest corner of the property. The proposed property expansion area is covered with big sagebrush and is disturbed with several dirt-track roads, one of which is used during ground water monitoring activities. The expansion area includes one existing ground water monitoring well. The expansion area will provide sufficient soil borrow resources to meet daily, intermediate, and final cover soil needs for the remainder of the facility’s life.

The proposed expansion area contains no valuable vegetation or cultural resources in the expansion area (see following sections in this chapter on Vegetation and Wildlife and Cultural Resources). The areas immediately adjacent to the landfill are less useful for recreation since they are adjacent to the landfill and are less valuable visual resources for the same reason. The proposed expansion area may provide habitat for mule deer in the area. However, the landfill vicinity is not a heavy deer use area and the sagebrush habitat on-site is widely distributed in the general vicinity of the project site and throughout the Eastern Sierra.

The proposed landfill expansion is consistent with the provisions of the PF, Public and Quasi-Public Facilities, section of the Mono County Land Development Regulations. The PF designation allows solid waste facilities, landfills, and household hazardous waste facilities subject to Use Permit. There are no requirements for minimum setbacks, maximum lot coverage, or maximum building height.

Mono County has reached an agreement with the landowner, the Los Angeles Department of Water and Power (LADWP), to operate the landfill for an additional 25 years (through 2028). The landfill design presented in the Preliminary Closure and Postclosure Maintenance Plan (PCPMP) for Pumice Valley Landfill reflects that agreement. The PCPMP notes that all site structures and facilities not needed during the postclosure period will be dismantled and removed from the site during closure construction. The only facilities remaining at the time of closure that will remain on-site during the postclosure maintenance period of 30 years will be the transfer station facilities, environmental monitoring and venting systems, components of the storm water management system, access roads, existing perimeter fencing around the waste disposal area (6-foot-high chain-link fence), and entrance gate. Once the postclosure maintenance period has expired, public access to the site may be allowed in accordance with the PCPMP, if it is approved by applicable regulatory agencies (PCPMP, p. 3).

No significant impacts to land use are anticipated from the redesignation of the expansion area from Open Space (OS) to Public and Quasi-Public Facilities (PF). In addition, the landfill uses on-site are

temporary; once the landfill is closed and the postclosure maintenance period has expired, the land use on-site is anticipated to revert to open space uses.

Conclusion: The operation of Pumice Valley Landfill within expanded boundaries will not create potentially significant impacts to land use.

Land Use Mitigation Measures

No land use mitigation measures are proposed.

Land Use Mitigation Monitoring

No land use mitigation monitoring is proposed.

POPULATION, HOUSING, EMPLOYMENT

The transfer station is currently staffed with one full-time gate attendant provided under contract by Mammoth Disposal, Inc.; tasks related to landfill operation are performed by employees from Public Works' Road District 3 in Lee Vining, consisting of three equipment operators and one supervisor. Equipment operators from Public Works' four other Road Districts are utilized as necessary to complete site tasks. Personnel from Benton Crossing Landfill are also used as needed for stockpile management, materials processing, waste compaction and covering, and maintenance. Personnel from the County's Parks and Facilities Division are utilized, as necessary, for maintenance projects. Typically, two equipment operators are utilized for waste compaction and covering activities.

The personnel requirements for Pumice Valley Landfill are not expected to change as a result of the expansion of the landfill (E. Nikirk, pers. comm.). Short-term projects outside of the daily operation and maintenance of the landfill will be performed by contractors (e.g., construction of new gas and ground water monitoring wells) (E. Nikirk, pers. comm.). If waste is diverted from Benton Crossing Landfill in 2023, personnel from Benton Crossing Landfill will be utilized at Pumice Valley Landfill, along with Road District employees, as required.

Since the landfill is fully staffed now and since there will be no requirements for additional personnel, there will be no impacts to employment and, therefore, no associated impacts to population or housing.

Conclusion: The operation of Pumice Valley Landfill within expanded boundaries will not create potentially significant impacts to employment, population, or housing.

Population, Housing, and Employment Mitigation Measures

No mitigation measures are proposed.

Population, Housing, and Employment Mitigation Monitoring

No mitigation monitoring is proposed.

PUBLIC SERVICES

General Governmental Services. The operation of Pumice Valley Landfill within expanded boundaries is not anticipated to affect General Governmental Services.

Law Enforcement. The operation of Pumice Valley Landfill within expanded boundaries is not anticipated to affect Law Enforcement Services.

Fire Protection Services. Fire protection services for the landfill are provided by the California Department of Forestry, Owens Valley Unit. To prevent and suppress landfill fires, the Pumice Valley Landfill maintains a stockpile of cover soil in the vicinity of the working face and fire extinguishers are installed in on-site vehicles, heavy equipment, and structures. Smoking and open burning are prohibited and all landfill equipment is equipped with spark arrestors.

The landfill has an Emergency Response Plan to be implemented in the event of an emergency at the facility (see Appendix H, RDSI). Landfill personnel are routinely trained in fire prevention and suppression activities and are prepared to provide immediate fire suppression activities in the event of a structure fire or a fire at the active disposal face. On-site communications systems provide for contact with 911 and the Public Works office. The operation of Pumice Valley Landfill within expanded boundaries is not anticipated to create the need for additional Fire Protection Services..

During the initial comment period for the DSEIR, one issue related to fire was raised, i.e.:

- Fire outbreak possible because of woody debris in landfill; possibility for combustion elsewhere in landfill?

Pumice Valley Landfill currently disposes only inert debris and construction and demolition waste on-site. Municipal solid waste and a variety of other waste materials are accepted at the transfer station and hauled to Benton Crossing Landfill for management and disposal. Wood waste stockpiles are periodically processed on-site by Benton Crossing Landfill personnel utilizing a horizontal shredder; this typically occurs twice per year, or more frequently if necessary to address the accumulated volume of wood waste. In general, the periodic removal of salvageable materials is coordinated at a frequency specific to each material so that the risk of fire and the potential for impacts to public health and safety are minimized. Ash disposed of at Pumice Valley Landfill is spread on the soil stockpile until the ash is cool, then it is mixed into the soil. The landfill is managed prudently so that the risk of fire throughout the site is minimized.

Sewer. Pumice Valley Landfill utilizes a portable toilet that is pumped regularly in accordance with Mono County Health Department requirements. Restroom facilities are available only to site personnel. The operation and expansion of the landfill will not create the need for additional personnel; therefore, there will be no need for additional restroom facilities.

Water. Bottled water is provided for drinking and washing. The operation and expansion of the landfill will not create the need for additional personnel; therefore, there will be no need for expanded water supplies. Non-potable water from the hydrant at the Lee Vining Road Shop is used to control fugitive dust from roadways. Fugitive dust generation from the main access road and roads at the transfer station is negligible since those roads are paved. Internal access roads are constructed from compacted asphalt grindings. When waste is diverted from Benton Crossing Landfill, additional fugitive dust may be generated on-site. Dust will be controlled with a water truck from the Lee Vining Road District, using water from the Lee Vining Road Shop.

Schools. The operation of Pumice Valley Landfill within expanded boundaries will not increase the population or employment and will not affect the school system. Supplemental analysis is not required.

Solid Waste. The project is to vertically expand Pumice Valley Landfill and increase its capacity. The Report of Disposal Site Information (RDSI) for Pumice Valley Landfill contains Site Life and Loading Rate Calculations for the landfill (see Appendix E in the RDSI). The remaining site life was estimated using annual population growth rates for Mono County. Those population growth rates are the basis

for waste stream projections. The RDSI notes that “based on the loading rate calculations, the remaining capacity of the Pumice Valley Landfill should accommodate the waste disposal requirements of the service area (including five years of countywide waste generation) through the year 2028” (RDSI, p. 11).

During the initial comment period for the DSEIR, one issue related to the capacity of the landfill was raised, i.e.:

- Increased county population growth could lead to a greater than predicted impact on the landfill. How can this be accounted for?

The loading rate calculations used to estimate the site life of the landfill are based on detailed records of waste received during the two-year period from July, 2002 through June, 2004, a period of great growth in the county, and current population projections for Mono County. The loading rate calculations reflect the impacts of increased growth in the county as accurately as possible.

Utilities. Pumice Valley Landfill is not served by any utility companies. On-site water and sewer services are discussed above. Power is provided by a generator and solar panels and battery packs.

Conclusion: The operation and expansion of Pumice Valley Landfill will not create potentially significant impacts to public services.

Public Services Mitigation Measures

No mitigation measures are proposed.

Public Services Mitigation Monitoring

No mitigation monitoring is proposed.

GEOLOGY AND SOILS

Geology and Soils Setting. The following information on geology and soils is excerpted from the Preliminary Closure and Postclosure Plan for Pumice Valley Landfill, Appendix D, Slope Stability Analysis.

The landfill lies east of the Sierra Nevada mountain range along the southwestern margin of the Mono Basin approximately two miles south of Mono Lake and four miles northwest of Crater Mountain, the highest point within the Mono Craters volcanic complex. This region marks the western rim of the Basin and Range province of North America, and is associated with extensional tectonism. The Mono Craters volcanic complex consists of a young volcanic chain of plug dome volcanoes arranged along an arc south of the Mono Basin. These volcanoes are part of a larger structure that includes the Long Valley Caldera and Inyo Craters to the south and the volcanoes of Mono Lake to the north. Together, these volcanoes form a 40-km-long chain of Late Pleistocene and Holocene craters, domes, and flows. Rhyolite flows erupted from the Mono Craters volcanic chain approximately 40,000 years ago, with eruptive episodes continuing until about 600 years ago (Wood, 1977). The rocks associated with the Mono Craters are typically rhyolitic in composition and consist of pumice, obsidian, and ash deposits.

The Pumice Valley Landfill is located on an alluvial plain that slopes toward Rush Creek northwest of the site. Soils in the vicinity of the landfill have formed by several depositional processes including alluvial deposition from surrounding mountain slopes, lacustrine deposits from Mono Lake and Pleistocene Lake Russell (the predecessor of Mono Lake), and ash cinders and volcanic debris deposited during volcanic events associated with the Mono Craters volcanic chain.

Subsurface sediments within the landfill area are described by Kleinfelder (1989) from drillholes advanced in excess of 200 feet during ground water monitoring well installation. The sediments mainly consist of unconsolidated interbedded aeolian, fluvial and lacustrine deposits. Near the surface (i.e., 5-10 feet below ground surface, bgs) the sediments are generally comprised of loose, unconsolidated sand derived from weathered volcanic parent rock. Lacustrine deposits that occur below these sediments (i.e., at approximately 30 feet bgs) are characterized as dense, fine sand and silt containing volcanic ash and pumice. These lacustrine sediments are underlain by interbedded coarse sands and gravels likely deposited in alluvial outwash channels (Kleinfelder, 1989). The larger particles of gravel are subangular to subrounded and consist of granitic and metamorphic material indicating these particles were transported by fluvial processes from the surrounding hills to the west and south prior to deposition (Kleinfelder, 1989).

Ground water was encountered during drilling between 240 and 260 feet below ground surface (bgs) in unconsolidated alluvial deposits consisting of gravelly sand to sandy gravel. Current ground water monitoring data indicate static ground water levels between 248 and 268 feet bgs. Due to the similarity between the original depth to ground water encountered during drilling and ground water elevations measured in the ground water wells during subsequent monitoring events, it is likely that the aquifer beneath the sites exists under unconfined conditions. Based on the most recent monitoring data, the ground water flow direction is generally slightly north of east, which is consistent with regional ground water flow toward Mono Lake, and at a gradient of 0.005 feet per foot (2003 Annual Report, Detection Monitoring Program for the Pumice Valley Landfill).

Soils on-site are mapped as the Pits-Dump Complex, 0-50 percent slopes on the site of the existing landfill and the Brantel gravelly coarse sand, 2 to 9 percent slopes on undisturbed ground surrounding the landfill. The Pits-Dump Complex is described as essentially barren, open excavations from which soil and commonly underlying material have been removed, exposing either rock or other material. The Brantel gravelly coarse sand occurs on valley floors and lake terraces. The soil is derived from volcanic ash from airfall, aeolian and alluvial ash.

Seismicity. The following information on faulting and seismicity is excerpted from the Preliminary Closure and Postclosure Plan for Pumice Valley Landfill, Appendix D, Slope Stability Analysis.

The Pumice Valley Landfill is situated within the Eastern California Shear zone as defined by Jennings (1985). This region is still volcanically and tectonically active and the Mono Crater Caldera is structurally bordered on the west by the northwest-trending Hartley Springs Fault and the Mono Lake Fault and on the southeast by the Hilton Creek Fault.

The site is not located within a currently-designated Alquist-Priolo Earthquake Fault Zone. There are no known active faults located at the site. The closest Holocene (i.e., active) faults to the landfill site identified by Jennings (1994) are the Mono Lake Fault (approximately 3 miles northwest of the site) and a group of splays on the Hartley Springs Fault where the northwest-trending fault enters the Mono Crater Caldera, approximately 3 miles south of the facility. The Mono Lake Fault is a range-bounding normal fault that borders the western side of Mono Lake. Holocene stream-terrace deposits that have been displaced by the Mono Lake Fault suggest two surface-faulting earthquakes occurred along this fault during the Holocene. The Hilton Creek Fault is also a range-bounding normal fault (USGS, 2004). Surface fault rupturing evident in the area is a result of four earthquakes in 1980 with moment magnitudes greater than M_W 6 (Taylor and Bryant, 1980). The Hilton Creek Fault generally steps complexly northwest and joins up with the Hartley Springs Fault (USGS, 2004).

Soils Impacts. Potential soil erosion impacts of the vertical expansion of the landfill are addressed in the Report of Disposal Site Information (RDSI) for Pumice Valley Landfill. Soil erosion impacts for the final grading plan are addressed in the Preliminary Closure and Postclosure Maintenance Plan (PCPMP) for Pumice Valley Landfill. Both the ongoing landfill operations and the final graded site have been designed to avoid or minimize soil erosion impacts.

The RDSI for Pumice Valley Landfill contains a section on dust control (Section 4.13.4) that states that Dross Road and the landfill entrance road are paved to a point approximately 100 feet north of the truck scale and internal access roads are constructed from compacted asphalt grindings. Roads within the transfer station is also paved. Fugitive dust generation from on-site roads is minimal and the roads are watered when necessary to prevent excessive generation of fugitive dust. Dust erosion from the soil borrow pit is also addressed through watering when necessary.

Final cover for the landfill will include several layers of soil and a geosynthetic clay liner (GCL) overlaid with 12 inches of nominally compacted soil and three inches of wood chips to protect the final cover from the effects of wind and water erosion and rain drop impact. The 12 inches of soil over the GCL is intended to accommodate root growth for revegetation; the entire site will be revegetated with a native seed mix during the final construction phase (see Vegetation section). Mono County has successfully used wood chips for erosion protection at several of the County's existing landfill and transfer station sites, including the Pumice Valley Transfer Station where the application of a layer of wood chips has successfully reduced blowing dust. The effectiveness of wood chips in this application will be routinely monitored and evaluated in compliance with State regulations. An alternative method of erosion control will be implemented if necessary. The potential for wind and water erosion of the final cover surface is considered negligible due to use of the wood chip layer (PCPMP, p. 6).

Potential soil erosion impacts may occur from the expansion of the landfill boundaries to the east. The expansion area will be utilized as a soil borrow pit and any resulting sediment transport will remain within the confines of the basin created by the borrow pit. The majority of the soil to be excavated from the soil borrow pit will be excavated at the very end of the landfill life, when soil will be needed for cover of waste re-directed from Benton Crossing Landfill and for final cover construction on the landfill. The final design for the soil borrow area is a pit sloping to the north. The borrow pit will not have any cover placed over it. Though the pit will be lower than the surrounding landscape, there will still be some potential for dust generation and soil erosion until the site is revegetated following final closure construction (see Vegetation section).

The prevailing wind direction at Pumice Valley Landfill is from the southwest, based on several years of wind data collected at Crestview, located approximately 12 miles south of the landfill (RDSI, p. 14). Winds are calm (less than 1 miles per hour) approximately 43 percent of the time. Winds tend to pick up in the afternoon. The potential for dust and wind erosion of on-site soils during construction, during the life of the landfill, and during the postclosure period is considered to be a potentially significant effect of the project. The DSEIR proposes mitigation measures to reduce these potential impacts to a less than significant level.

The potential erosion and sedimentation effects of storm water runoff are discussed in the section on water resources.

Seismic Impacts. The site and the proposed expansion area are not within an Alquist-Priolo Fault Hazard Zone; the nearest faults are located approximately three miles to the southwest and three miles to the north. The final grading plan for Pumice Valley Landfill has been designed to ensure the stability of the slopes on-site. The Preliminary Closure and Postclosure Maintenance Plan (PCPMP) for Pumice Valley Landfill notes that:

Landfill sideslopes have been designed with an overall slope of 3H:1V (horizontal to vertical), while the top surface of the landfill has been designed as a series of ridges and swales with surface slopes of approximately five percent graded toward collection channels constructed with a flowline of three percent. (PCPMP, p. 5)

In accordance with 27 CCR Section 221750 (f), a slope stability analysis of the final cover layer was performed using the XSTABL computer software. This analysis indicated the proposed final cover

system is stable of 3H:1V sideslopes under static conditions with a safety factor of 1.9. The results of pseudostatic analyses predicted the potential for failure under seismic loading, but a deformation analysis indicates the predicted displacements are acceptable. The details of this analysis are included in the Slope Stability Analysis in Appendix D (of the PCPMP). (PCPMP, p. 6)

The full perimeter of the waste footprint is currently enclosed by a 6-foot-high chain-link fence with a locking entrance gate. This perimeter fence and locking gate will remain in position during the postclosure maintenance period to prevent unauthorized access. Retention basins will be constructed within the existing (and final) fenced perimeter. Once the postclosure maintenance period has expired, public access to the site may be allowed in accordance with the PCMCP, if it is approved by applicable regulatory agencies.

Once waste disposal is completed on-site, all site structures and facilities not needed during the postclosure period or for the remaining transfer station will be dismantled and removed from the site. It is anticipated that the only facilities existing at the time of closure that will remain on-site throughout the postclosure maintenance period will be the truck scale, scalehouse, and other transfer station facilities, the environmental monitoring and venting systems, components of the storm water management system, access roads, perimeter fencing, and the access gate.

The operation and expansion of Pumice Valley Landfill will not result in additional seismic hazards to people or structures. Supplemental analysis is not required.

Conclusion: Potentially significant impacts will be present with regard to soil erosion; mitigation measures are required to reduce impacts to less than significant levels.

Geology and Soils Mitigation Measures

- GS-1 Construction activities on-site shall comply with all Mono County standards and best management practices for erosion control, including the following:
- Covering disturbed soils with wood chips until construction is complete.
 - Controlling exotic weed species.
 - Project phasing to minimize exposed or excavated areas.
 - Sprinkling/watering of disturbed soils, particularly in high use areas. A water truck shall be present on-site during construction activities.
 - Using wind erosion construction barriers on sites exposed to wind erosion during initial excavation.
 - Covering, windfencing around, or wetting of stockpiled earth materials.
 - Limiting the speed of construction equipment, trucks, and other vehicles to 15 miles per hour on the site.

Geology and Soils Mitigation Monitoring

See mitigation monitoring plan in final EIR.

VEGETATION AND WILDLIFE

Vegetation Survey Methodology. The following information on vegetation is summarized from the Botanical Survey of Proposed Benton Crossing Landfill and Pumice Valley Landfill Expansion Areas, Mono County, California by Mark Bagley (2002). The complete report is contained in Appendix A. A list of plant species of concern with the potential to occur in the survey area was prepared using data from the California Natural Diversity Data Base (CNDDB 2001), the California Native Plant Society (CNPS 2001), information from discussions with Bishop Bureau of Land Management (BLM) Botanist Anna Halford, and information from Mr. Bagley's personal files. Field surveys were conducted on

August 14, 2001 by Mark Bagley and Stephen Ingram. Surveys were conducted on all areas being considered for expansion at that time (see Figure 2). Surveys were conducted by systematically walking parallel transects over the survey areas. Transects were spaced 50 feet apart on the north, south, and west sides of the area and 60 feet apart on the east side. All plant species encountered in the study area were identified to at least a genus level and to the level necessary to ensure they were not plant species of concern. The report in Appendix A contains a list of all plant species observed on-site.

Vegetation and Habitat Types. The only vegetation community occurring in the Pumice Valley Landfill expansion survey area is Big sagebrush scrub, a vegetation community that is widely distributed throughout the Eastern Sierra and the Great Basin (see Figure 3). It is an open, shrub-dominated type, dominated by Great Basin or big sagebrush (*Artemisia tridentata*), typically with bare ground under and around the shrubs. The majority of the survey area consists of a low diversity big sagebrush scrub, very strongly dominated by big sagebrush, with scattered antelope bitterbrush (*Purshia tridentata*) and a sparse understory of native annual herbs. The shrubs are generally large, about 1.5 to 2 meters tall. The only other shrub species is an occasional desert peach (*Prunus andersonii*). Common understory associates include Wilcox woolly star (*Eriastrum wilcoxii*), Bailey buckwheat (*Eriogonum baileyi*), capped cryptantha (*Cryptantha circumscissa*), and Nuttall tiqulia (*Tiqulia nuttallii*). Soils are loose, sandy pumice.

Areas of disturbance occur in the survey area along the landfill perimeter fence, the graded landfill access road, and several small dirt roads that cross the area. These areas have been cleared and are mostly open with scattered very small big sagebrush and occasional small antelope bitterbrush. The more common scattered, often patchy annuals include Bailey buckwheat, spurry buckwheat (*Eriogonum spergulinum* var. *reddingianum*), Russian thistle (*Salsola* sp.), and diffuse gayophytum (*Gayophytum diffusum*).

No sensitive or specially protected vegetation types occur in the Pumice Valley Landfill expansion survey area.

Plant Species of Concern. No federal or state-listed or proposed rare, threatened, or endangered plant species were observed in the survey area, nor were there any species listed by the California Native Plant Society or any other plant species otherwise considered sensitive or species of concern.

Prior to conducting the survey, two species of concern, Mono milk-vetch and Mono Lake lupine, were identified as having some potential to occur in the Pumice Valley survey area. Bagley notes that "these should have been observable during the survey period and it appears that habitats that could support these species do not occur in the Pumice Valley Landfill expansion survey area."

Vegetation Impacts. No sensitive or specially protected vegetation types occur in the Pumice Valley Landfill expansion survey area. Big sagebrush scrub is not a sensitive habitat type and is common and widespread throughout the Eastern Sierra; impacts to this community are not considered potentially significant.

Field surveys were conducted in the latter part of the growing season, when all plants observed were identifiable. No plant species of concern were found to occur within the Pumice Valley Landfill expansion area, none have been previously reported on the site or within two miles of the site and none are expected to occur there. No impacts to rare, threatened, or endangered plant species or other plant species of concern are expected from the project.

Wildlife Survey Methodology. The following information on wildlife is summarized from the Wildlife Surveys, Mono County Landfill Expansion Sites by JBR Environmental Consultants, Inc. (2001). The complete report is contained in Appendix A. A list of sensitive wildlife species with the potential to occur in the survey area was compiled utilizing information from the California Natural

Insert figure from Bagley's report

Figure 2
Location of the Pumice Valley Landfill Expansion Vegetation Survey Area

Diversity Data Base (CNDDDB), the California Department of Fish and Game (DFG), and the US Forest Service (USFS). Field surveys were conducted by a JBR biologist on October 25 and 26, 2001. The biologist established and walked a series of transects observing and noting wildlife and wildlife sign encountered during the survey (see Figure 4). Survey efforts were concentrated on the undisturbed habitats surrounding the site, but habitats within the landfill were also assessed. Prior to the site visits, conversations with Tim Taylor, Wildlife Biologist with the DFG for Mono County, had indicated that mule deer would probably make use of the site to some degree. Deer signs, including tracks and pellets, were noted. The number and location of fresh pellet groups were noted.

Mule Deer. Mule deer (*odocoileus hemionus*) from the Casa Diablo deer herd pass through Mono Basin during the spring and summer migration periods when the herd moves between its summer range in the Sierra Nevada and wintering areas to the southeast. The area surrounding the landfill, east of US 395 and north of SR 120 (E), is identified as a Dispersed Use Area by the BLM (Mono County MEA, Figure 20). The main migration routes are located to the south, along the southern base of the Glass Mountains and the Inyo-Mono Craters and to the west along the eastern base of the Sierra Nevada; those areas are identified as Intensive Use Areas by the BLM (Mono County MEA, Figure 20). While the main migration corridor is located to the south, some deer pass through the general project area. Tim Taylor (CDFG wildlife biologist) also expects some fawning to occur locally due to the tall brush present in the area (JBR, p. 4). The tall big sagebrush and bitterbrush present in the area provides good hiding cover and represent fawning habitat for small numbers of deer.

JBR Environmental Consultants, Inc., noted the following deer use of the project area:

The tracks of three to four individual deer were found in the proposed expansion area east of the existing landfill. A heavier concentration of tracks, left by three to four deer in one group, and by what appeared to be three deer in a second group of tracks, were found leading south-southeast across the northeast corner of the survey area. A single set of tracks and fresh deer pellets were found in this same area. These tracks indicated deer were moving through the northeastern corner of the survey area toward the Mono Craters. The tracks of six to eight deer were found moving east and east-southeast across the northern end of the existing landfill. These deer had jumped the fence onto landfill property at the western-most drainage which begins at the north edge of the landfill. Several deer had jumped back over the fence, exiting the landfill, at the next drainage to the east (the central drainage north of the existing landfill). Others had moved into the dump area, but vehicle tracks obscured where these deer had exited the landfill.

Game Birds. Sage-grouse (*centrocercus urophasianus*) utilize portions of the Mono Basin area for mating, nesting, and rearing their young. The following information on sage-grouse in the Mono Basin area is taken from the Greater Sage-Grouse Conservation Plan for Nevada and Eastern California, Sage-Grouse Conservation Team, 2004. Sage-grouse utilize different habitats at different times of the year. During the early spring when they are breeding they congregate near lek sites (strutting grounds). There are 3 strutting grounds identified in the Mono Basin; none of them is located near the project site. Sage-grouse nest in close proximity to known leks. Meadows and streamside habitats are utilized heavily during the nesting and brood rearing period. During the late fall and winter, sage-grouse subsist almost entirely on sagebrush.

In the wildlife survey conducted for the project, no evidence of sage-grouse was noted during the field survey. Mourning doves and California quail may occur in the area during the warmer times of the year and may nest in the area.

The long term sage-grouse breeding population trend in nearby Long Valley from 1973 to the present is assessed in the Greater Sage-Grouse Conservation Plan for Nevada and Eastern California. Results of that assessment reveal several distinct changes in spring population that appear related to changes associated with fall sage-grouse hunting regulations in Mono County – when fall hunting is limited,

the spring population is larger. Since 1993, the population appears to be stable and slightly increasing (Greater Sage-grouse Conservation Plan, Figure 8-7).

Raptors. Raptor species that could potentially occur in the general area include northern goshawk and Swainson's hawk. The area could also provide foraging habitat for golden eagles, prairie falcons, red-tailed hawks, and American kestrels. The sagebrush shrubland prevalent throughout Mono Basin could represent potential foraging habitat for raptors although the tall brush present on much of the undisturbed portion of the survey area probably limits use of those areas as raptor foraging habitat. The cleared area of the landfill could also provide potential burrowing owl habitat but the active disturbance on site would dissuade burrowing owl use of the existing landfill. Tim Taylor also noted that the project area represents potential short-eared owl habitat.

No raptors were observed in or near the landfill during the October, 2001, baseline surveys.

Small Game and Non-Game Species. Small game and non-game species that could be expected to occur in the area include a variety of birds and small mammals. Due in part to the timing of the surveys, few non-game species were observed in the survey area. The tracks of coyotes and fox (probably kit fox), as well as black-tailed jackrabbits and cottontail rabbits, were found in the area. Least chipmunks were observed in the grounds of the existing landfill. The tracks and burrows of other rodent species were also noted in the area.

The only birds observed in the area during the surveys were horned larks, common ravens, a single black-billed magpie, and house finches. Species such as the western meadowlark, spotted towhee and Brewer's sparrow can be expected to nest in the big sagebrush-bitterbrush habitats of the project area. Winter residents can be expected to include the dark-eyed junco and white-crowned sparrow.

Reptiles. Small reptiles common to sagebrush scrub could be expected to occur in the area. No reptiles were observed during the October, 2001, survey.

Special Status Wildlife Species. The following special status wildlife species could occur in the general project vicinity: willow flycatcher, bats, pygmy rabbits, northern goshawk, Swainson's hawk, sage-grouse, burrowing owls, yellow warbler, California gull, Mono brine shrimp. California Natural Diversity Data Base (CNDDB) records indicate that the willow flycatcher has been reported near the Sierra range front, over four miles west and southwest of the project area. Habitat for this species includes dense growths of willow and similar vegetation (e.g. riparian woodlands, mountain meadows, springs and seepages with dense stands of willow 3 to 8 feet tall). Habitat for this species does not occur in or near Pumice Valley Landfill.

A number of bat species are listed as Special Status Species. However, there are no caves, mines, rock outcrops or trees in the survey area or project vicinity to provide roosts for bats. Human activity at the existing landfill and the lack of potential roosting sites minimizes the likelihood of bats roosting at the Pumice Valley Landfill.

The landfill area was searched for evidence of pygmy rabbits. No trails, burrows, or small pellets were found in the area.

CNDDB records indicate a northern goshawk territory that was active in the early 1980s, located near Rush Creek, approximately 1.5 miles north of the Pumice Valley Landfill. Goshawks typically nest in dense forest or in aspen groves, though foraging may occur over more open country. The landfill site and proposed expansion area do not represent goshawk nesting habitat and offer limited potential for foraging.

CNDDB records also indicate that a Swainson's hawk nest was reported near the Sierra range front, approximately 3 miles southwest of the project area. Swainson's hawks generally prefer more open

Insert figure from wildlife report

Figure 3
Wildlife Survey Boundaries, Pumice Valley Expansion Vegetation Survey Area

habitats as foraging areas. The tall brush present in the area may be expected to limit use of the expansion area by raptors.

CNDDDB records do not include any records of sage-grouse in the project area. Tim Taylor, DFG wildlife biologist, stated in the wildlife survey for the project that the tall vegetation in the survey area may limit use of the area by sage-grouse (JBR, p. 5).

No evidence of burrowing owls was noted in survey area; the expansion area does not include the low, open habitat preferred by the owls. Human use of the cleared areas within the landfill would be expected to dissuade burrowing owl use of cleared ground within the active landfill. The CNDDDB also reported an occurrence of the yellow warbler at a point four miles northwest of the survey area. This species generally occurs in riparian habitat; there is no habitat for this species in or near Pumice Valley Landfill.

The California Gull nests on islands in Mono Lake and may forage in the vicinity of the landfill.

The Mono brine shrimp occurs in Mono Lake. Ground water monitoring at the landfill has not detected the presence of toxic substances or movement of any such substances away from the landfill. The landfill is approximately 0.5 miles from the nearest surface water (Rush Creek) and does not appear to represent a threat to sensitive fish or aquatic invertebrate species in waters near the site.

Special Habitats. The CNDDDB identifies areas of the Mono Pumice Flat special habitat located approximately 0.7 miles to the south-southeast and 3 miles to the east of the survey area. This habitat supports stands of Parry's rabbitbrush (*chrysothamnus parryi* vulcanicus) and stipa elmeri. Mono Lake lupine (*lupinus duranii*) and Mono milk-vetch (*astragalus monensis*) are also frequently present. The area to the south-southeast is south of SR 120 (E); the area to the east is largely south of SR 120(E).

Wildlife Impacts. One issue concerning wildlife was raised during the initial comment period for the DSEIR, i.e. potential impacts to sage-grouse

Impacts to Mule Deer. Mule deer are important harvest species in California. As noted in the Mono County MEA, the landfill is not in an intensive deer use area (MEA Figures 20, 32J). Deer migration routes are primarily to the south and west of the project site, across US 395 to the west and south of the Glass Mountains and the Inyo-Mono Craters to the south. The area surrounding Pumice Valley Landfill supports a tall big sagebrush-antelope bitterbrush community that offers good cover for deer and light to moderate evidence of deer use was noted in the area during the October survey.

The proposed expansion area is approximately 10 acres in size and is disturbed along its western boundary with the firebreak maintained at the perimeter of the existing landfill. There are also a few dirt-track roads through the area, one of which is used when sampling the existing down-gradient ground water monitoring well located in the proposed expansion area. The expansion area will be used as a soil borrow pit with the majority of the soil not being removed until the end of the landfill's life when the soil will be needed for final cover. The landfill, with the exception of the approximately three acres where the transfer station is located, will eventually be returned to open space uses and the remaining 47 acres within the existing and proposed landfill boundaries will be available for use as wildlife habitat. The eventual loss, over a 23-year period, of 10 acres of potential deer habitat located outside of identified intensive deer use areas will not create a significant impact to mule deer.

Proposed landfill operations and expansion will not create impacts to deer movement. There is currently a 6-foot-high chain link fence surrounding the perimeter of the waste disposal area (approximately 23.9 acres of the project site). This existing fence will remain in the same position throughout the remaining 25 years of the landfill's active life and through the 30-year postclosure maintenance period. The wildlife survey notes that there was evidence that deer had jumped the fence onto the landfill site (JBR, p. 5).

Additional landfill-related traffic along US 395, SR 120 (E) and Dross Road could increase the risk of wildlife/vehicle collisions. Existing traffic volumes at the landfill are low and are expected to remain low throughout the life of the landfill (see Circulation section); they could increase, though, if and when the waste stream is re-directed from Benton Crossing Landfill. The landfill operates only during daylight hours, 8 hours per day, 4 days per week. If the waste stream were re-directed from Benton Crossing Landfill, Pumice Valley Landfill would probably operate on a schedule similar to the current schedule at Benton Crossing Landfill (i.e., from 7:30 am to 5:30 pm). Speed limits on SR 120 (E) are 55 mph and are posted at several locations along SR 120 (E) from its junction with US 395 to its junction with Dross Road. Speed limits on Dross Road are not posted. Proposed mitigation measures in this DSEIR limit speeds on Dross Road to 25 mph and require speed limit signs to be posted on Dross Road. Potential impacts to wildlife from landfill-related traffic will not be significant.

Impacts to Sage-grouse. Sage-grouse are considered to be special-status species. In the California Natural Diversity Database (CNDDB), greater sage-grouse (*centrocercus urophasianus*) are listed as follows:

G4S3	G4 = apparently secure throughout its global range although some factors exist to cause some concern such as narrow habitat or continuing threats. S3 = Restricted range, rare in California.
Audubon WatchList	WatchList species are those facing population declines and/or threats such as habitat loss on their breeding and wintering grounds, or with limited geographic ranges. The WatchList is a science-based system that focuses attention on at-risk bird species so that limited resources are spent where they are most needed.
BLM Sensitive	Bureau of Land Management sensitive species are those that are 1) under status review by the FWS/NMFS; or 2) whose numbers are declining so rapidly that Federal listing may become necessary; or 3) with typically small and widely dispersed populations; or 4) those inhabiting ecological refugia or other specialized or unique habitats. In California, two additional conditions must be met; 1) a significant population of the species must occur on BLM-administered lands, and 2) the potential must exist for improvement of the species' condition through BLM management. It is BLM policy to provide sensitive species with the same level of protection that is given federal candidate species.
DFG-CSC	Listed by the California Department of Fish and Game as a California Special Concern species. Species are designated as CSC because declining populations levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. DFG's goal is to halt their decline by calling attention to their plight and addressing the issues of concern early enough to secure their longterm viability.
FS Sensitive	The US Forest Service defines sensitive species as those plant and animal species identified by a regional forester for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density, or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

The Greater Sage-Grouse Conservation Plan for Nevada and Eastern California identifies several existing and potential risks to sage-grouse conservation, among them the following potentially applicable to the project:

- Landfill operations;
- Predation;

- Fences and transmission lines;
- Succession – habitat degradation;
- Cheatgrass/invasive exotic plants; and
- Road kill hazards.

Landfill operations are a concern because they encompass several risk factors associated with sage-grouse mortality (i.e., impacts from predation and fences, habitat degradation, and road kill hazards).

Predation is often considered to be a major limiting factor on sage-grouse, although there is little published information that supports that hypothesis (Connelly, et al.). Studies of the effects of predation on sage-grouse suggest that other factors affect the severity of predation impacts on sage-grouse populations (i.e., habitat condition for nesting and brood rearing, climatic conditions, and the availability of other prey). The following excerpts from the Conservation Assessment of Greater Sage-Grouse and Sagebrush Habitats and the Greater Sage-Grouse Conservation Plan for Nevada and Eastern California discuss sage-grouse predation.

Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats, Connelly et al. Predation, Parasites and Pathogens 10 -2

As with most species of game birds, sage-grouse have many predators. Throughout most of the species' range, coyotes (*Canis latrans*), badgers (*Taxidea taxus*), bobcats (*Felis rufus*) and several species of raptors are common predators of juvenile and adult sage-grouse (Patterson 1952, Schroeder et al. 1999, Schroeder and Baydack 2001). Additionally, coyotes, badgers, ground squirrels (*Spermophilus* spp.), common ravens (*Corvus corax*), and magpies (*Pica pica*) commonly prey on sage-grouse eggs (Patterson 1952, Schroeder et al. 1999, Schroeder and Baydack 2001). Many additional predators can kill and consume younger birds including the common raven, northern harrier (*Circus cyaneus*), and weasel (*Mustella* spp.) (Schroeder et al. 1999). The abundance of red fox (*Vulpes vulpes*) and raccoon (*Procyon lotor*) may have substantially increased in sage-grouse habitats because of landscape changes (Fichter and Williams 1967, Bunnell 2000, Connelly et al. 2000a).

Although there is little published information supporting the notion that predation is a major limiting factor on sage-grouse (Connelly and Braun 1997, Connelly et al. 2000b, Schroeder and Baydack 2001), arguments continue to be made supporting predator control as an important management action (Wambolt et al. 2002). Two non-peer-reviewed studies (Batterson and Morse 1948, Autenrieth 1981) suggest that nest predation due to corvids may limit sage-grouse numbers.

More recently, numerous investigators have documented sage-grouse survival and nest success (Gregg 1991, Robertson 1991, Connelly et al. 1993, Gregg et al. 1994, Holloran 1999, Lyon 2000, Wik 2002). Only two of these studies (Gregg 1991, Gregg et al. 1994) indicated that predation was limiting sage-grouse populations by decreasing nest success, but both of these indicated that low nest success due to predation was ultimately related to poor nesting habitat. Most reported nest success rates are >40% (see chapter 3), suggesting that nest predation is not a widespread problem.

Additionally, relatively high survival of adult birds (Zablan et al. 2003) and recent results demonstrating that coyote control in an area of Wyoming failed to produce an effect on nesting success (Slater 2003), further reinforce the idea that predation is not a widespread factor acting to depress sage-grouse populations. Thus, rigorous field studies using radio telemetry have generally failed to support these early findings. In order to understand the possible impacts of predators on sage-grouse, it is important to understand the dynamics and behavior of predator populations. There are no predators within the range of sage-grouse that depend on sage-grouse as their primary food source, many depend primarily on rodents and lagomorphs and feed on sage-grouse opportunistically (see Bump et al. 1947, Angelstam 1986, Marcström et al. 1988, and Myrberger 1988 for examples). Consequently, the dynamics of a predator population and its primary food source can have observable impacts on a grouse population (Schroeder and Baydack 2001). When the primary food source is relatively rare, then a predator may spend more time searching for food, and consequently may be more likely to encounter a grouse or its nest (Angelstam 1983).

Predation may influence the population dynamics of grouse by reducing nest success, survival of juveniles (especially during the first few weeks after hatch), and annual survival of breeding-aged birds. The low survival of sage-grouse in the Strawberry Valley of Utah has been attributed to an unusually high density of red foxes (Bunnell 2000). Nest success is extremely variable and differences in success have been attributed to variation in habitat and management strategy (Connelly et al. 1991, Gregg et al. 1994, Connelly et al. 2000b). Although sage-grouse may partly compensate for predation pressure on nests by reneating (Schroeder 1997), habitat insufficient quality and quantity often has been stated as an important goal for reducing the effects of predation (Connelly et al. 1991, 2000b). Survival of juveniles is clearly low, but is also difficult to accurately assess (Crawford et al. 2004). Unlike nesting habitat, management of brood-rearing habitat has focused on increasing the density and diversity of forbs (Klott and Lindzey 1990, Pyle and Crawford 1996, Sveum et al. 1998b), rather than improving vegetation to reduce predation (Edelmann et al. 1998). Although there have been many observations and recommendations concerning the importance of suitable habitat for reducing predation pressure on adults, detailed statistics have been difficult to obtain (Schroeder and Baydack 2001). The quantity, quality, and configuration of habitat clearly has the potential to impact predator behavior and dynamics (Chapters 4, 12). These considerations include, but are not limited to, escape cover at nests (Connelly et al. 1991, Gregg et al. 1994) and visibility at leks (Hartzler 1974).

In addition, several investigators have suggested that adequate feeding areas may minimize risk associated with increased travel and time spent in riskier habitats (Gregg et al. 1993, Fischer et al. 1996, Pyle and Crawford 1996). Landscape fragmentation, agricultural habitats, and human populations have the potential to increase predator populations, and hence, predation pressure on grouse populations as shown for corvids, domestic cats, and dogs (see Chapter 12). This potential for increased predation pressure in fragmented habitats is similar to what has been observed for grouse in Europe, where the pattern is well documented (Andr  n et al. 1985, Andr  n and Angelstam 1988, Bernard-Laurent and Magnani 1994, Kurki et al. 1997).

Although predator controls have been tried within the range of sage-grouse (Batterson and Morse [1948] removed many common ravens on an area in Oregon and there was a short-term increase in nest success), the cost effectiveness and long-term impacts of the removal on the behavior, genetics, and abundance of sage-grouse have not been examined (Schroeder and Baydack 2001). There also has been a more recent recognition of the broader financial and political cost to removing predators (Messmer et al. 1999). Because of these considerations, predator management for sage-grouse has generally been addressed with the “manipulation of habitat because it is believed to be the most economical, efficient, and viable long-term strategy to enhance populations” (Schroeder and Baydack 2001:28).

Greater Sage-Grouse Conservation Plan for Nevada and Eastern California

2.5.8 Predation

Predation is the most important proximate cause of sage-grouse mortality (Braun 1975, Bergerud 1988a, Autenrieth 1986, Schroeder et al. 1999); almost every sage-grouse will eventually be eaten. Sage-grouse are known to be included in the diet of a variety of species. Sage-grouse eggs, new-born chicks, and juvenile birds have a greater number of predators and are more vulnerable to predators than are adult birds. The differential adult sex ratio also indicates that males have higher mortality than females (Schroeder et al. 1999). Survival between hatching and the end of summer varies from approximately 40 percent (June 1963) to 60 percent (Wallestad 1975).

Although a greater number of predators are known to prey on chicks, several factors lower the mortality rate at this life stage. After about six weeks of age, the chicks are able to take advantage of cover, detect predators, and escape by flying. As the birds increase in size and their ability to escape improves, a predator is more likely to take an individual juvenile sage-grouse, whereas a single predator is more likely to take an entire clutch of eggs or brood of newly hatched chicks that cannot yet escape by flight.

Sage-grouse are most vulnerable during the first few weeks after hatching. Insects and forbs are critical during this period and climatic conditions greatly influence the availability of these food items. In addition to lack of forage, heavy rainfall along with unseasonably cold temperatures during hatching may decrease production (Wallestad 1975). Stress due to lack of quality food items or from weather conditions also make the chick more vulnerable to predators.

On the other hand mortality rates for adult sage-grouse are generally considered to be relatively low when compared to other upland game birds (Connelly et al. 1993, Zablan 1993). Predation occurs throughout the year and what may seem like an obvious limiting factor on the population may only be part of a bigger issue. For example, beginning in the spring of 2000 NDOW contracted with US Department of Agriculture Aphis - Wildlife Services to conduct predator control within the Grassy-Stevens Camp area with emphasis on ravens. The Grassy-Stevens Camp area is approximately 50 miles north of the town of Gerlach, Nevada and is within the Washoe-Modoc Local Plan Area. Monitoring the effects of predator control on sage-grouse populations was conducted through analysis of wings collected during the general hunting season and from an application of a special sage-grouse hunt conducted within the Grassy Stevens Camp area (limited to 75 hunters).

Wings were analyzed to determine age, sex, nest success of females, and days since hatch of chicks. After three years of conducting this project within the Grassy-Stevens Camp area, sage-grouse production rates remained low and population levels showed a downward trend. Analysis of sage-grouse wings collected from harvest indicated that raven control increased sage-grouse nest success, but continued low recruitment suggested that other problems exist within this area. An alternative hypothesis to test is that poor habitat quality makes nests and chicks more vulnerable to predators. Predation of adult sage-grouse occurs, but overall survival of adult birds ranges from 55 to 67 percent for females and from 38 to 60 percent for males (Zablan 1993, Connelly et al. 1994, June 1963). Although there are several predators of adult sage-grouse, the relative impact of these predators on the population is less because the encounters may be less frequent during portions of the year and predators are less effective when preying on adults (Bean 1941, Beck 1977).

These excerpts suggest that a variety of factors affect the mortality of sage-grouse, that several factors may affect the grouse's vulnerability to predation, and that additional information is needed to clarify the impacts of predation on sage-grouse.

The Bi-State Area Greater Sage-Grouse Conservation Plan notes that "the range of size of predator populations can be expanded by human activities such as road and fence construction, landfills, and housing development." That plan also notes that additional data is needed to verify and further characterize the risk, including an evaluation of raven and gull populations associated with local landfills or refuse exchange centers.

Since Pumice Valley Landfill currently buries only inert waste and construction and demolition waste, predatory birds are not a concern at the landfill. In addition, the area does not provide suitable habitat for raptors. If and when the waste stream is re-directed from Benton Crossing Landfill in late 2023, municipal solid waste will be buried at Pumice Valley Landfill and may attract some birds to the area.

Landfill operations are designed to minimize access to the working face by compacting and covering trash on a daily basis. This complies with one of the Initial Conservation Strategies in the Bi-State Area Greater Sage-Grouse Conservation Plan that states "Reduce raven and gull populations associated with local landfills or refuse exchange centers via prudent refuse management practices or propose to move refuse site." In addition, Benton Crossing Landfill has utilized a propane bird cannon to scare birds away from the site; a bird cannon may be used at Pumice Valley Landfill, if necessary, if and when municipal solid waste is buried there.

Impacts to sage-grouse from the proposed operation of Pumice Valley Landfill through 2023 will be less than significant since the area surrounding the landfill is not a major sage-grouse use area, the surrounding habitat does not provide suitable habitat for sage-grouse throughout the year, and scavengers are not attracted to the landfill since only inert debris and construction and demolition waste are buried there. After 2023, if and when municipal solid waste is diverted for burial at Pumice Valley Landfill, impacts to sage-grouse and other wildlife species could increase but would still remain less than significant since the area surrounding the landfill is not a major sage-grouse or mule deer use area.

Temporary litter net fencing utilized to control litter from the active working face could attract sage-grouse predators (i.e., ravens, sea gulls, raptors) to the landfill by providing perching sites on top of the support poles. A mitigation measure included in this DSEIR requires the County to top the poles with spikes specifically designed to prevent birds from perching on top of the poles if litter net fencing is utilized. Sage-grouse and other birds may fly into the net in low-light conditions. Proposed mitigation measures require the County to work with sage-grouse conservation organizations to minimize harm to sage-grouse.

Sage-grouse are particularly susceptible to West Nile Virus; standing water at the landfill could provide breeding grounds for mosquitoes that could affect sage-grouse populations. The Report of Disposal Site Information (RDSI) for the landfill notes that:

“proper surface grading to promote drainage and prevent ponding, as well as liquid waste disposal restrictions, minimize the presence of standing water and potential insect breeding areas. Potential breeding areas or conditions will be addressed when discovered.”

The proposed detention basins for the 100-year storm could provide standing water for mosquito breeding that could impact sage-grouse populations. Due to the porous nature of the soils in the area, any standing water would quickly percolate into the surface. The final grading plan for the landfill is also designed to promote drainage and eliminate standing water. Landfill operations and the proposed expansion of those operations will not create impacts to sage-grouse populations from standing water.

Expansion of the landfill could create increased use of the area by scavengers (foxes, coyotes, etc.) and increased numbers of predators could affect sage-grouse populations in the area. Coyote and fox tracks were found in the area during the wildlife field surveys performed on-site. The proposed boundary expansion will not attract more scavengers since the expansion area will not contain any refuse. If and when municipal solid waste is buried at Pumice Valley Landfill, proper operational procedures will be utilized to control vector generation at the landfill. Section 4.13.5 of the Report of Disposal Site Information (RDSI) for Pumice Valley Landfill addresses vector control at the landfill:

“Mono County employs several operational procedures designed to control vector generation and propagation at the landfill. Inert debris and construction and demolition waste deposited at the active face is compacted on a quarterly basis and covered with approximately 12 inches of soil (daily cover during MSW disposal with either an approved alternative cover or six inches of earthen material). Compaction and cover reduces vector access into, and harborage in, the waste mass. In addition, proper surface grading to promote drainage and prevent ponding minimizes the presence of standing water and potential insect breeding areas. Potential breeding areas or conditions will be addressed when discovered.”

Uncovered loads may create litter and that litter may attract predators to the area. State Vehicle Code Section 23115 requires trash loads to be totally covered while traveling on state highways. Local cover ordinances are usually enacted to address covered loads on local roadways. Since the majority of trash loads being delivered to Pumice Valley Landfill must approach via US 395 and SR 120(E), they must be covered. Mitigation measures require the County to educate the public concerning cover requirements on an on-going basis.

As discussed in the section on mule deer impacts, additional landfill-related traffic along US 395 and SR 120(E) could increase the risk of wildlife/vehicle collisions. Existing traffic volumes at the landfill are low and are expected to remain low throughout the life of the landfill, even after waste is re-directed from Benton Crossing Landfill (see Circulation section). The landfill operates only during daylight hours. Speed limits on SR 120(E) are 55 mph and are posted at several locations from its junction with US 395 to Dross Road. Speed limits on Dross Road are not posted. Proposed mitigation

measures in this DSEIR limit speeds on Dross Road to 25 mph and require speed limit signs to be posted on Dross Road. Potential impacts to wildlife from landfill-related traffic will not be significant.

The County has utilized a propane bird cannon to keep birds away from Benton Crossing Landfill and may utilize one if and when municipal solid waste is buried at Pumice Valley. The bird cannon rotates and fires randomly throughout the weekdays. Studies have revealed that if a bird cannon is fired at regular intervals and is not moved around, birds get used to the noise and are no longer deterred (Denyse Racine, DFG). If the cannons are fired sporadically and moved from place to place, they tend to be much more effective. Sophisticated and expensive technology exists that is extremely effective at deterring birds (Denyse Racine, DFG). For example, systems exist that can detect the presence of a flock of birds; once the flock is detected, the bird cannon is triggered, and the birds are sufficiently deterred. Mitigation measures proposed for this DSEIR require the bird cannon to be moved and to be fired randomly if it is used at Pumice Valley.

Land clearing and operational activities at the landfill at certain times of the year could impact sage-grouse, particularly during their breeding and nesting periods. The landfill is an existing long-established operation; daily operational activities are ongoing and it is assumed that wildlife in the area are adapted to those noises. Daily operational activities at the landfill will not change until and if waste is re-directed from Benton Crossing. In addition, all equipment on-site is equipped with noise attenuation devices to minimize potential noise impacts. Since the landfill is not located in or adjacent to an area used for sage-grouse breeding and nesting, impacts to sage-grouse will be less than significant.

The proposed expansion area will not be involved in daily operations. Short-term construction related impacts may occur when additional monitoring wells are constructed. The majority of the fill dirt from the soil borrow pit will be removed at the end of the landfill's life to be used as final cover. While it is unknown whether or how construction activities at the landfill may affect sage-grouse and while potential impacts to sage-grouse would be minimal since the project area is not a significant sage-grouse use area.

Impacts to Special Status Species. No listed or sensitive wildlife species were observed in or near the Pumice Valley Landfill site. The existing landfill and the proposed expansion area do not provide suitable habitat for special status species identified as occurring in the Mono Basin area. The expansion and operation of Pumice Valley Landfill will not create significant impacts to special status species.

Conclusion: The operation and expansion of Pumice Valley Landfill will create less than significant impacts to Vegetation or Wildlife; mitigation measures are proposed to further reduce potential impacts.

Vegetation and Wildlife Mitigation Measures

- VW-1 The spread of weeds shall be deterred by covering stockpiled topsoil with tarps.
- VW-2 The speed limit on Dross Road shall be limited to 25 mph. Within six months of the approval of this project, speed limit signs shall be posted on Dross Road at its junction with SR 120(E) and at the exit from the landfill.
- VW-3 On an on-going basis, the Mono County Department of Public Works shall provide information to the public, to contractors, to public agencies, and to private trash haulers concerning state requirements for covered loads on state highways.
- VW-4 If and when the waste stream is re-directed from Benton Crossing Landfill, a bird cannon shall be utilized to keep away scavenger birds (e.g., gulls, crows). The bird cannon shall be moved around the landfill in a random pattern and shall be fired intermittently to maximize its effectiveness.

- VW-5 If a temporary litter fence is utilized at Pumice Valley Landfill during the period when waste is re-directed from Benton Crossing Landfill, poles utilized for the litter fencing shall be topped with spikes to prevent birds from perching on top of the poles.

Vegetation and Wildlife Mitigation Monitoring

See mitigation monitoring plan in final EIR.

VISUAL RESOURCES

Visual Resource Setting. Pumice Valley Landfill is located in the western portion of Mono Basin, a visually open area with long sight lines. Vegetation in surrounding areas is primarily sagebrush scrub. The landfill itself is situated on a broad alluvial plain that slopes gently north toward Mono Lake (RDSI, p. 12, also see Appendix B, Drawing 2, Existing Topography). Topography at the landfill site is relatively flat; elevations at the landfill range from approximately 6800 feet above mean sea level (amsl) at the northwest corner to 6820 amsl on the southeast corner of the property.

Surrounding public lands managed by the Bureau of Land Management are designated as Class II-High in the BLM's Visual Resource Management classes. Class II permits visual contrast; management activity may be seen but must not attract attention. Changes in any of the basic elements (form, line, color, texture) caused by the activity must not be visible in the surrounding landscape. Public lands further to the north are managed by the Inyo National Forest as part of the Mono Basin National Forest Scenic Area. Those lands are managed primarily to preserve the natural landscape and to ensure that visual impacts do not dominate the natural landscape.

There are two designated scenic highways in the area. US 395 is a State-designated scenic highway and SR 120(E) is a County-designated scenic highway. The landfill is located approximately 1.8 miles east of US 395 and 800 feet north of SR 120(E).

Since the area is open and flat, and the landfill is located on a slight rise, the landfill is visible from various viewpoints in the surrounding Pumice Valley area. The disturbed areas are the most visible element of the landfill. The degree of visibility of the landfill varies seasonally. When snow covers the sagebrush, the disturbed areas in the landfill blend into the surrounding vegetation. Similarly, when there is no snow present, vegetation-free areas tend to blend into the surrounding landscape, particularly those areas of the landfill that have been covered with wood chips. When there is a light cover of snow present, the landfill is highly visible since the snow highlights vegetation-free disturbed areas.

The landfill is visible from the following viewpoints in the surrounding Pumice Valley:

- From the southbound lane of US 395 approximately one mile south of Lee Vining where US 395 straightens out at a point approximately 3.2 miles northwest of the landfill. US 395 at that point is on a slight rise. The landfill is visible to southbound travelers in the middle distance; the Inyo-Mono Craters are visible in the distance. However, the eye is generally drawn to the surrounding scenery. An observer needs to be aware of the landfill and actually be looking for the landfill to focus on it at this point.
- From a point further south along US 395, at the approximate boundary of the Mono Basin National Forest Scenic Area, the landfill is visible to southbound travelers in the middle distance where it appears in the foreground of a view of the Inyo-Mono Craters. At that point, the landfill is approximately 2.5 miles east of the highway. Again, an observer needs to be aware of the landfill and looking for it to focus on it at this point.

- The landfill approximately 1.8 miles northeast of the junction of US 395 and 120(E) and is not visible from the junction since it is approximately the same elevation as the junction and visibility is blocked by vegetation. Panum Crater and parts of Mono Lake are visible in the distance from this viewpoint. Again, an observer needs to be looking for the landfill to focus on it.
- The landfill is visible to northbound travelers on US 395 at a point approximately 3 miles southwest of the landfill, but is not easily distinguishable. This viewpoint overlooks Mono Lake, Negit Island, and Panum Crater.
- The area between SR 120(E) and the landfill is gently sloping and heavily vegetated. The landfill is not visible from SR 120(E) because it is setback approximately 800 feet from the highway, it is only 10 feet above ground surface, and the area between the landfill and the highway is densely vegetated with tall sagebrush.
- The landfill is visible from the trail around Panum Crater, located approximately 1.5 miles to the north-northeast of the landfill within the boundaries of the Mono Basin National Forest Scenic Area.

If and when the waste stream is re-directed from Benton Crossing Landfill, the landfill will be visible from the same viewpoints as noted above but it will appear as a higher mound. The actual height above grade will average about 25 feet but will range from a high of 42 feet at the northwest corner of the fill area to 12 feet at the southeast corner of the fill area. The difference in height above grade is due to existing variances in the natural topography on-site.

Figure 5 contains photographs of the Pumice Valley Landfill from a variety of viewpoints.

Existing structures and facilities at the landfill include the landfill access road and entrance gate, perimeter fencing (6-foot high chain-link), the scalehouse and truck scale, an office/storage building, recycling storage areas, household hazardous waste storage locker and used oil storage tank, transfer area for municipal solid waste and municipal solid waste compactor, 40 cubic yard debris box for collecting white goods, metal, tires and bulky items, and ground water monitoring wells (see Appendix B, Drawing 3, Existing Facilities Plan). The majority of these structures and facilities are located at the transfer station in the southwest corner of the site. Heavy equipment is utilized on-site periodically (e.g., wheel loaders, bulldozers, dump trucks, wood shredder).

Proposed structures and facilities include additional landfill gas monitoring wells and vents, additional ground water monitoring wells, drainage facilities, and storm water detention basins. If and when the waste stream is re-directed from Benton Crossing Landfill to Pumice Valley, additional structures and heavy equipment will be temporarily located on-site. The structures will include additional storage areas for hazardous waste and materials and storage for separated waste/recycled items.

Visual Resource Impacts. The proposed design for the final landfill configuration consists of vertical fill over the existing waste footprint and does not propose lateral expansion beyond the limits of the existing waste footprint. The existing waste footprint encompasses approximately 23.9 acres of unlined disposal area. The approved 1995 closure plan includes perimeter slope heights ranging between 12 and 21 feet above surrounding grades; the proposed design includes perimeter slope heights ranging between 12 and 42 feet. The approved capacity for Pumice Valley Landfill is currently 347,112 cubic yards of waste and cover soil; the proposed design results in an estimated site capacity of 701,410 cubic yard for waste and cover soil. The proposed total airspace capacity including in-place waste and cover soil and final cover volume, is 818,840 cubic yards.

The landfill as it currently is presents a disturbed visual appearance that does not blend in with the surrounding landscape. From close up, the landfill presents a “developed” appearance, with roads, structures, fencing, heavy equipment, and altered topography, that contrasts with the surrounding

Proposed expansion area to the east.

View east-northeast toward landfill from SR 120(E).

Figure 4
Site Photos, Pumice Valley Landfill

undeveloped landscape. From a greater distance, the most noticeable aspects of the landfill are the non-vegetated areas. The proposed property expansion area is covered with big sagebrush and is disturbed with several dirt-track roads, one of which is used during ground watering monitoring activities. The expansion area includes one existing ground water monitoring well. Additional structures and facilities proposed for the landfill site (i.e., ground water and gas monitoring wells, storm water detention basins) could contribute to the existing disturbed appearance. Mitigation measures are proposed that will reduce these impacts to a less than significant level.

Litter at the landfill does not currently impact visual resources since litter from municipal solid waste is confined to the transfer station area. The 6-foot-high chain-link perimeter fence effectively traps any wind-blown litter generated at the site. If municipal solid waste is re-directed from Benton Crossing Landfill to Pumice Valley Landfill, litter may become a nuisance and may impact visual resources. Mitigation measures are proposed that will reduce these impacts to a less than significant level.

Many of the visual impacts of the landfill will cease to be impacts once the site is cleared during closure construction and throughout the postclosure period. All structures will be removed from the landfill site prior to the postclosure period except for the perimeter fencing and access gates and the transfer station facilities. The existing and final perimeter fencing (6-foot-high chain-link) that surrounds the waste footprint will remain during the postclosure maintenance period. Once the postclosure maintenance period has expired, public access to the site may be allowed in accordance with the PCPMP, if it is approved by applicable regulatory agencies.

The long-term visual impacts of the landfill are related to the landfill itself. Comments received during the initial comment period for the DSEIR focused on the long-term impacts to visual resources:

- Will the landfill blend with surrounding/existing terrain?
- Area is located adjacent to the Mono Basin National Forest Scenic Area. Will the proposed landfill be seen from the Scenic Area?
- Visual quality analysis should be conducted to see what proposed landfill would look like at full buildout.

The Joint Technical Document (JTD) for Pumice Valley Landfill (i.e., the Report of Disposal Site Information and the Preliminary Closure and Postclosure Maintenance Plan) contains detailed figures and drawings showing existing topography, final grading, and cross-sections of the final grading. Appendix A of the JTD contains a reduced drawing set which is reproduced in Appendix B of this document; Appendices L and M of the JTD contain a full-size drawing set. These drawings provide an accurate assessment of what the landfill will look like when it is completed.

The most noticeable visual impact of Pumice Valley Landfill is the way the disturbed areas stand out in the surrounding sagebrush scrub vegetation. The expansion area is currently vegetated with big sagebrush scrub although there are some dirt roads on-site. Use of the expansion area as a soil borrow pit will increase the non-vegetated area at the landfill and will increase that visual impact. The visual impact of the soil borrow pit will be mitigated somewhat by its being below grade: it will not be as visible from most viewpoints since it is below grade. Similarly, the transfer station is constructed below grade and, as such, will not be visible from surrounding areas.

The visual impact of non-vegetated areas will be mitigated to some degree by covering the entire waste mass with wood chips. The wood chips will not only reduce erosion but will also lessen the visual impact of the landfill by helping it blend into the surrounding landscape. If the landfill were left with bare earth as a final cover it would stand out more in the surrounding landscape. Proposed mitigation measures also require the entire site, including the soil borrow pit in the expansion area, to be revegetated with a native seed mix to further reduce potential visual impacts.

The final vertical landfill configuration will stand out from the surrounding relatively flat natural topography. The final design of the landfill is typical for the solid waste industry and is intended to achieve engineering objectives related to slope stability, drainage, and construction of the final cover as well as to maximize the area for waste disposal. The PCPMP notes that "it is estimated that the waste fill may settle as much as 4.3 feet during the 30-year postclosure maintenance period" (PCPMP, p. 5). As the waste mass settles over time it will look more "naturalistic."

Mitigation measures proposed in this DSEIR are intended to reduce the potential visual impact of the final landfill configuration to a less than significant level. These mitigation measures require a landscape architect to develop the final landscape plan for the entire site so that it appears to be a more naturally occurring feature.

Conclusion: Potentially significant impacts will be present with regard to Visual Resources; mitigation measures are proposed that will reduce those impacts to a less than significant level.

Visual Resource Mitigation Measures

- VR-1 Building materials and colors for additional structures on-site (e.g., monitoring wells) shall be compatible with the surrounding environment. Reflective materials shall not be allowed. Colors shall be muted earth tones, i.e., browns, greens. Roof colors shall be muted, non-reflective dark earth tones (i.e., brown, green).
- VR-2 Colors for any additional fencing shall be muted dark non-reflective tones (i.e., dark green or brown).
- VR-3 Heavy equipment stored on-site shall be placed behind structures whenever possible.
- VR-4 Wind-blown litter shall be controlled, potentially through the installation of a portable litter fence or manually.
- VR-5 Under the direction of the Public Works Director, a landscape architect shall create the final landform for the site prior to the start of the closure construction phase so that the landfill appears to be a naturally-occurring mound with tapered toes and undulating surfaces. The landfill shall be constructed as indicated in the engineered drawings included in the Joint Technical Document (JTD) for the landfill. The landscape architect shall design the final cover over the engineered waste mass.
- VR-6 The landfill, including the soil borrow pit in the expansion area, shall be revegetated during the closure construction phase with a native seed mix. The seed mix shall be planted at the optimal time of year for germination. Revegetated areas shall be monitored to achieve a density of cover similar to the density of cover in surrounding naturally vegetated areas.

Visual Resources Mitigation Monitoring

See mitigation monitoring plan in final EIR.

CULTURAL RESOURCES

Cultural Resource Setting. The following information on cultural resources is summarized from the Archaeological Survey of Pumice Valley Landfill and Proposed Expansion completed by Trans-Sierran Archaeological Research in 2001. The complete report is contained in Appendix A. Areas immediately adjacent to the entire landfill, including the proposed expansion area, were surveyed (see Figure 6). Archaeological work completed for the survey included a 100 percent survey of the entire identified project area and archival research. Archival research indicated that no archaeological surveys had been conducted and no sites were recorded within the project area. One survey had been

conducted within one-half mile of the project area; no sites were found during that survey. The report from Trans-Sierran Archaeological Research notes that:

“Further afield, ten prehistoric and three historic sites had been recorded within two miles of the project area (Burton 1998, Gilreath 1996; Grantham 1991; Laylander 1994, 1996a-d; White 1985; Wickstrom 1992; Wickstrom and Jackson 1993). Five of the previously recorded prehistoric sites consist of sparse to moderate-density debitage and flaked-stone tool scatters. The other five recorded prehistoric sites include both flaked and ground stone artifacts. These include a site with 22 milling sticks and 11 mortars, and one tested site with abundant projectile points and other artifacts, some bone and pottery, and three subsurface features (a hearth and two charcoal concentrations). The previously recorded historical sites in the vicinity consist of two small dumps and a collapsed shed. The dumps contain material dating to between the 1930s and the present. The shed, made of lumber and wire nails, had no roofing material, foundation, access road, or associated artifacts.”

Field work for the Pumice Valley Landfill expansion was conducted on October 12-13, 2001. The entire project area, including existing and proposed landfill areas, was surveyed by Jeff Burton walking traverses 20 to 30 meters apart along north-south compass bearings. Within the landfill, undisturbed areas and cut banks in excavated areas were sought out and examined.

No archaeological sites or isolates were discovered within the project area (the landfill and proposed expansion area). The only cultural material noted consisted of scattered modern trash and four small trash dumps, all likely related to the modern landfill. The report from Trans-Sierran Archaeological Research notes that:

“It should be pointed out that the entire project area is also strewn with obsidian debris, likely from the eruption of nearby Panum Crater about 630 years ago (Tierney 1997). None of this material, including two areas of large angular obsidian cobbles (PV-05 and PV-06; Figure 1), which are eroding out of newly-excavated pits within the landfill, appears to have been utilized.”

Cultural Resource Impacts. No significant cultural resources were identified on or adjacent to the Pumice Valley Landfill and the proposed expansion area. The proposed landfill expansion will have no effects on significant archaeological resources.

Conclusion: The expansion and operation of Pumice Valley Landfill will not create potentially significant impacts to cultural resources. Mitigation measures are proposed to further reduce impacts.

Cultural Resource Mitigation Measures

- CR-1. If evidence of potentially significant cultural resources is discovered during development, a mitigation plan shall be completed prior to further construction or earth disturbance.
- CR-2. To protect Native American burial sites if they are discovered, the provisions of section 7050.5 of the Health and Safety Code shall be followed [CEQA Section 15126.4(b)].

Cultural Resource Mitigation Monitoring

See mitigation monitoring plan in final EIR.

CIRCULATION

Setting. Pumice Valley Landfill is accessed from US 395, SR 120(E), and Dross Road. US 395 is a four-lane conventional highway with an unpaved median that averages approximately 100 feet wide and a turning area at its junction with SR 120(E). State Route 120(E) is a conventional two-lane highway. Dross Road is a two-lane paved County road. Access to the landfill is maintained year-round.

Figure 5
Pumice Valley Landfill Project Area, Archaeological Survey

The Mono County Department of Public Works collected combined traffic data for the landfill and transfer station for the period between May, 2001, and February, 2005, in order to determine traffic patterns at the landfill. The following is an excerpt from the RDSI for Pumice Valley Landfill. Appendix K in the RDSI contains traffic volume data for Pumice Valley Landfill from 2001-2005.

The Mono County Department of Public Works performed an analysis of traffic data compiled for the period between May, 2001 through February, 2005 to determine average daily traffic for each operating day of the week. The following data from that period provides a general understanding of daily traffic patterns to both the landfill and transfer station at the Pumice Valley disposal site:

Annual Average Daily Traffic	15.7 vehicles/day
Average Daily Traffic, Mondays	15.6 vehicles/day
Average Daily Traffic, Wednesdays	16.3 vehicles/day
Average Daily Traffic, Fridays	15.2 vehicles/day
Average Daily Traffic, Saturdays	15.6 vehicles/day
Peak Average Day	18.6 vehicles/day (Wed., July)

The monthly variation of average daily traffic is graphically presented in Chart K-1 and Chart K-3, respectively, enclosed in Appendix K. The corresponding data is presented in Table K-1, also enclosed in Appendix K. Overall, the peak average weekday during the analysis period occurred on Wednesdays in July, with an average daily traffic volume of 18.6 vehicles. From the above data, it can be seen that the annual average daily traffic doesn't vary significantly by day of week, nor does the monthly average daily traffic vary by day of week. However, it has been observed that a relatively large local construction project can dramatically impact site traffic patterns over a short period of time.

Although an analysis has not been performed to determine the number of commercial vehicles versus private self-haul vehicles, general observations and a review of gate receipts suggest that the majority of vehicles can be attributed to private self-haulers. During a relatively large local construction project, however, contractor or public agency vehicles predominate.

Circulation Impacts. Traffic impacts were calculated for the peak traffic period observed in the data collected by the Department of Public Works. Traffic impacts were calculated utilizing the projected annual growth rates used to calculate the site life and loading rate for the landfill (see Table 1, following page). It was assumed that traffic volumes would increase in the same proportion and at the same rate as the annual total waste is calculated to increase.

Results of calculations show that over the 25-year life of the project, there will be a potential increase of 4.8 vehicles per day on the peak average day for the Pumice Valley service area alone. Access roads to the landfill have the capacity to handle that increase in traffic. US 395 at its intersection with SR 120(E) has a wide median that provides a separate turning area for vehicles turning left onto SR 120(E) from US 395.

During the initial comment period for the DSEIR, two issues related to circulation were raised, i.e.:

- The current traffic load is approximately 10 vehicles per day. If Benton Crossing Landfill closes, traffic will increase by 4 or 5 times that.
- Would SR 120(E) be opened to take on extra traffic?

The Transportation Concept Report for US 395 provides the following information about the segment of US 395 from the Rush Creek 4 lane to the south end of Lee Vining:

- US 395 from Rush Creek to the south end of Lee Vining is a four-lane conventional expressway;
- The concept facility and ultimate facility for that segment of US 395 is a four-lane expressway;

TABLE 1 Traffic Volume Calculations

Year Ending	Projected Annual Growth Rate	Peak Average Day Avg. Daily Traffic Volume	Peak Day Daily Traffic Volume
2004	1.29 %	18.6	30
2005	1.29 %	18.8	30
2006	1.29 %	19.0	31
2007	1.29 %	19.2	31
2008	1.29 %	19.4	32
2009	1.29 %	19.6	32
2010	1.29 %	19.8	32
2011	1.0 %	20.0	33
2012	1.0 %	20.2	33
2013	1.0 %	20.4	33
2014	1.0 %	20.6	34
2015	1.0 %	20.8	34
2016	1.0 %	21.0	34
2017	1.0 %	21.2	34
2018	1.0 %	21.4	35
2019	1.0 %	21.6	35
2020	1.0 %	21.8	35
2021	0.73 %	22.0	36
2022	0.73 %	22.2	36
2023	0.73 %	22.4	36
Late 2023 – Benton Crossing Landfill reaches capacity, waste stream re-directed to Pumice Valley Landfill			
2024	0.73 %	22.6 (PV) + 76.1 (BX) = 98.7	36 (PV) + 136 (BX) = 172
2025	0.73 %	22.8 (PV) + 77.0 (BX) = 99.8	37 (PV) + 137 (BX) = 174
2026	0.73 %	23.0 (PV) + 77.9 (BX) = 100.9	37 (PV) + 138 (BX) = 175
2027	0.73 %	23.2 (PV) + 78.8 (BX) = 102.0	37 (PV) + 139 (BX) = 176
2028	0.73 %	23.4 (PV) + 79.7 (BX) = 103.1	38 (PV) + 140 (BX) = 178

Notes:

1. Projected annual growth rates from Table E-1, Site Life/Loading Rate Calculations for Pumice Valley Landfill in Appendix E of the RDSI.
2. Traffic volumes for 2024 through 2028 include the projected growth rate for the Pumice Valley service area as well as the traffic volumes for the waste diverted from Benton Crossing Landfill. The projected annual growth rate for Benton Crossing Landfill is from Table E-2, Site Life/Loading Calculations for Benton Crossing Landfill in Appendix E of the RDSI and from calculations in the Draft Supplemental EIR for the Benton Crossing Landfill.

- The present LOS for that segment is A; projected LOS through 2020 is A. The final concept LOS for that segment is B;
- Annual Average Daily Traffic (AADT) volume for this segment is 4,200 vehicles;
- Projected AADT for 2010 is 5,430 vehicles (LOS A); projected AADT for 2020 is 6,000 vehicles (LOS A);

- Peak hourly volume is 680. Projected peak hourly volume for 2010 is 880 (LOS A); projected peak hourly volume for 2020 is 970 (LOS A);
- The following factors were used to forecast traffic volumes:
 - ◆ % traffic growth per year (0-10 years) = 2
 - ◆ % traffic growth per year (11-20 years) = 1
 - ◆ % trucks = 13
 - ◆ % RVs = 6
 - ◆ % buses = 1
 - ◆ Directional split = 60/40
 - ◆ Terrain = rolling.

The data from the US 395 Transportation Concept Report indicate that US 395 has sufficient capacity to accommodate the projected increase in traffic volumes over the 25-year life of the project. As shown in Table 1, traffic volumes to the landfill will increase only slightly through 2023. If Pumice Valley continues to operate as a landfill and transfer station with a service area limited to Lee Vining, Mono Basin, and June Lake, its expansion and operation will not create significant impacts to circulation.

If Pumice Valley Landfill is utilized as the regional landfill once Benton Crossing Landfill reaches capacity, traffic volumes, including peak traffic volumes, will increase substantially beginning in late 2023 and continuing through 2028. US 395 and SR 120(E) have the capacity to accommodate the predicted traffic volumes. It is unlikely that SR 120(E) would be opened during the winter to accommodate the additional traffic when waste is diverted from Benton Crossing Landfill because over 75 percent of the waste at Benton Crossing Landfill is generated by the Town of Mammoth Lakes and US 395 is the most direct access route from Mammoth Lakes.

It does not appear that the overall increase in traffic resulting from the use of Pumice Valley Landfill as the county's regional landfill will have a substantive impact on the intersection of US 395 and SR 120(E). US 395 at its intersection with SR 120(E) has a wide median that provides an existing turn pocket for vehicles turning left onto SR 120(E) from US 395.

The draft Solid Waste Facilities Permit (SWFP) for Pumice Valley Landfill provides for a permitted traffic volume of 30 vehicles per peak day. While the highest traffic volume per day is important, in circulation analyses for environmental documents traffic counts from the top five peak days are usually considered anomalies and are disregarded for the analysis. Traffic counts from the average weekly peak day (i.e., the upper part of the norm) are considered to be the important traffic volumes and are usually utilized for the analysis.

The traffic data in the RDSI were utilized for the analysis in the DEIR. Those data are based on traffic counts at the landfill from May, 2001, through February, 2005, and provide an accurate assessment of current traffic for both the landfill and the transfer station. The RDSI states that: "the peak average weekday during the analysis period occurred on Wednesdays in July, with an average daily traffic volume of 18.6 vehicles" (RDSI, p. 35). That figure was utilized for the Traffic Volume Calculations in Table 1 and provides an estimate of the Peak Average Weekday Traffic Volumes for the landfill and transfer station (i.e., the peak traffic volumes that the landfill site could expect on a regular basis, not the highest single traffic count day).

The traffic calculations in Table 1 are based on existing traffic volumes and estimates of increases in the waste flow at the site and associated increases in traffic. They provide a realistic picture of the peak traffic volumes that can be expected at the landfill site on a regular basis. By 2023, before any waste is re-directed from Benton Crossing Landfill, the peak average daily traffic volume at the landfill site is estimated to be 22.4 vehicles/day. The SWFP application requests a higher permitted

traffic volume (30 vehicles/peak day) so that when anomalous peak traffic volumes do occur, the landfill site will still be in compliance with its permit.

By 2028, if and when waste is re-directed from Benton Crossing Landfill, the peak average daily traffic volume for the landfill site is calculated to be 103.1 vehicles and the traffic volume for the peak day is expected to be 178 vehicles. As stated above, US 395 and SR 120(E) have the capacity to accommodate the predicted traffic volumes in 2028. If and when waste is re-directed from Benton Crossing Landfill, the SWFP will be amended to reflect the higher traffic volumes.

Conclusion: The operation and expansion of Pumice Valley Landfill will not result in significant impacts to Circulation; mitigation measures are not required.

Circulation Mitigation Measures

No mitigation measures are proposed.

Circulation Mitigation Monitoring

No mitigation measures are proposed.

NOISE

Noise Setting. Pumice Valley Landfill is located in a remote area with low ambient noise levels. There are no sensitive noise receptors (residences, schools, hospitals) located within four miles of the site. The landfill is operated only during daylight hours and all equipment on-site is equipped with noise attenuation devices in compliance with Mono County Code requirements (Chapter 10.16, Noise Ordinance).

For the majority of the project life, noise produced at the landfill will primarily be from operations at the Pumice Valley transfer station and from the limited disposal of inert debris and construction and demolition waste on-site. The diesel generator that operates the transfer station compactor is operated intermittently throughout the day for a total of less than one hour per day. The generator is enclosed within a below-grade housing and is equipped with a muffler. A wood chipper is utilized on-site up to three times per year to grind wood waste; decibel readings for the shredder are estimated to be 80 dB at 50 feet from the machine.

Heavy equipment is used to spread, compact, and cover inert debris and construction and demolition waste. The machinery used on-site is relatively small (bulldozer, scraper, loader, grader, dump trucks, water truck) and creates minimal noise. Heavy equipment use at the landfill is not constant but varies depending on what activities are occurring. Since the disposal units on-site are compacted infrequently, equipment use is minimal. The use of alternative daily cover (tarps, etc.) reduces heavy equipment activity and therefore reduces noise generation due to landfill operations.

Traffic noise is minimal since traffic to the facility averages only 18.6 vehicles per day on a peak average day (RDSI, p. 35).

Pumice Valley Landfill has operated as a disposal facility for approximately 32 years. During that period, the County has not received any adverse comments associated with noise impacts. Sound levels are negligible at the site boundaries.

The landfill is not a permanent use. Once the capacity of the landfill is reached within 25 years, all equipment will be removed from the site except for the transfer station facilities and noise levels will

lessen as heavy equipment usage is eliminated. During the life of the landfill, noise levels in the area will occur intermittently as landfill activities occur.

Noise Impacts. Short-term temporary noise impacts may occur at the landfill as a result of construction activities related to the expansion of landfill activities. The installation of additional monitoring wells may result in a one-time short-term noise impact. Compliance with the provisions of the Mono County Noise Regulations (Mono County Code Section 10.16) will minimize construction-related noise impacts. Those regulations limit construction activities to daylight hours and require all machinery to be equipped with noise attenuation devices.

Long-term noise impacts at the landfill will not change significantly. Machinery used on-site for landfill activities will remain the same. Traffic noise will increase only minimally through 2023 while the landfill is used primarily as a transfer station. In late 2023, if the site is utilized as the County's regional landfill when Benton Crossing Landfill reaches capacity, noise impacts will increase. Traffic will increase as will heavy equipment usage. However, those impacts will be temporary. When Pumice Valley Landfill reaches capacity in 2028, those impacts will be eliminated.

One issue related to noise was raised during the initial comment period for the DSEIR, i.e.:

- Will noise from heavy equipment disturb sage-grouse in the area?

Pumice Valley Landfill is a long-term established use, with long-established noise patterns and levels. The proposed operation and expansion of the landfill will not substantially alter established noise patterns or levels. The area surrounding the landfill is not a heavy sage-grouse use area; the nearest lek is located west of the junction of US 395 and SR 120(E) where noise from the highways and the gravel quarries along Rush Creek would be more likely to impact the sage-grouse than noise from the landfill.

Conclusion: The operation and expansion of Pumice Valley Landfill will not result in potentially significant impacts pertaining to noise.

Noise Mitigation Measures

No mitigation measures are proposed.

Noise Mitigation Monitoring

No mitigation monitoring is proposed.

AIR QUALITY

Air Quality Setting. There are no air quality data specifically for the Pumice Valley Landfill; however, Mono Basin is currently a non-attainment area for the state and federal standards for PM₁₀ (particulate matter), primarily due to dust from the exposed lake bed at Mono Lake. The landfill is within the jurisdiction of the Great Basin Unified Air Pollution Control District (GBUAPCD).

Implementation of an approved dust control plan on-site reduces the potential generation and offsite migration of airborne particles. Dross Road and the landfill entrance road are paved to a point approximately 100 feet north of the truck scale and internal access roads are constructed from compacted asphalt grindings. Roads within the transfer facility are also paved. Fugitive dust generation from on-site roads is minimal and the roads are watered when necessary to prevent excessive generation of fugitive dust. Dust erosion from the soil borrow pit is also addressed through

watering when necessary. The wood shredder is equipped with a dust suppression system that can be operated to control dust generated when processing wood waste on-site.

Current air quality impacts from vehicle and equipment emissions are minimal due to the low level of traffic on-site.

The prevailing wind direction at Pumice Valley Landfill is from the southwest, based on several years of wind data collected at Crestview, located approximately 12 miles south of the landfill (RDSI, p. 14). Winds are calm (less than one mile per hour) approximately 43 percent of the time. Winds tend to pick up in the afternoon.

The RDSI for Pumice Valley Landfill contains a Landfill Gas Monitoring Plan (Appendix F of the RDSI). Mono County currently monitors methane concentrations in ambient air at Pumice Valley Landfill. The monitoring has not detected any landfill gas in ambient air in structures on-site or at the property boundary.

Mono County intends to install a complete network of landfill gas monitoring wells during the operational life of the landfill. The proposed well construction details and locations of monitoring wells are shown in the drawings in the Preliminary Closure and Postclosure Plan for Pumice Valley Landfill. Once the system is installed and operational, Mono County will monitor soil-gas for the presence of subsurface methane and other landfill gas constituents throughout the landfill property.

Air Quality Impacts. During the initial comment period for the DSEIR, the Great Basin Unified Air Pollution Control District (GBUAPCD) made the following comments:

- Please calculate the amount of fugitive dust generated by the landfill expansion and the amount of fugitive dust generated during ongoing daily activity. In addition, discuss the fugitive dust mitigation strategy proposed for this project in order to comply with the District's Prohibitory Rules 400, 401, and 402.
- Please address the relevance of and applicability of NSPS [40 CFR 60.750] Subpart WWW - Standard Performance for Municipal Solid Waste Landfills.
- Since the landfill expansion is located in a PM₁₀ non-attainment area, the EIR should include a comprehensive discussion regarding the effect the increase in emissions will have in meeting the Mono Basin attainment status.
- Address the exposure, handling, collection, and treatment of leachates.
- Discuss the use of open outdoor fires at the disposal site for wood wastes.
- Discuss the permitting status and air related emission from ancillary sources, such as: generators, landfill gas vents, methane gas flares, wood grinders.

Responses to each of these comments are presented in the following paragraphs.

Fugitive Dust:

The RDSI for Pumice Valley Landfill contains a section on dust control (Section 4.13.4) that states that Dross Road and the landfill entrance road are paved to a point approximately 100 feet north of the truck scale and internal access roads are constructed from compacted asphalt grindings. The transfer facility is also paved. Fugitive dust generation from on-site roads is minimal and the roads are watered when necessary to prevent excessive generation of fugitive dust. Dust erosion from the soil borrow pit is also addressed through watering when necessary.

Currently, there is little ongoing daily activity other than at the transfer station which is paved. If and when the waste stream is re-directed from Benton Crossing Landfill, daily activity at the landfill will increase.

Potential soil erosion impacts may occur from the expansion of the landfill boundaries to the east. The expansion area will be utilized as a soil borrow pit. The majority of the soil to be excavated from the soil borrow pit will be excavated at the very end of the landfill life, when soil will be needed for cover of the waste diverted from Benton Crossing Landfill and for final cover construction on the landfill. The final design for the soil borrow area is a pit sloping to the north. The borrow pit will not have any cover placed over it. Though the pit will be lower than the surrounding landscape, there will still be some potential for dust generation and soil erosion until the site is revegetated following final closure construction (see Vegetation section).

The prevailing wind direction at Pumice Valley Landfill is from the southwest, based on several years of wind data collected at Crestview, located approximately 12 miles south of the landfill (RDSI, p. 14). Winds are calm (less than one mile per hour) approximately 43 percent of the time. Winds tend to pick up in the afternoon. The potential for dust and wind erosion of on-site soils during construction, during the life of the landfill, and during the postclosure period is considered to be a potentially significant effect of the project. The DSEIR proposes mitigation measures to reduce these potential impacts to a less than significant level.

Final cover for the landfill will include several layers of soil and a geosynthetic clay liner (GCL) overlaid with 12 inches of nominally compacted soil and three inches of wood chips to protect the final cover from the effects of wind and water erosion and rain drop impact. The 12 inches of soil over the GCL is intended to accommodate root growth for revegetation; the entire site will be revegetated with a native seed mix during the final construction phase (see Vegetation section). Mono County has successfully used wood chips for erosion protection at several of the County's existing landfill and transfer station sites, including the Pumice Valley Transfer Station where the application of a layer of wood chips has successfully reduced blowing dust. The effectiveness of wood chips in this application will be routinely monitored and evaluated in compliance with State regulations. An alternative method of erosion control will be implemented if necessary. The potential for wind and water erosion of the final cover surface is considered negligible due to use of the wood chip layer (PCPMP, p. 6).

NPS (40 CFR 60.750) Subpart WWW – Standard Performance for Municipal Solid Waste Landfills:

These regulations address landfill gas generation. In August, 2003, SRK Consulting completed calculations of the landfill gas generation potential of each of the landfills in Mono County, including Pumice Valley Landfill. Results of those calculations show Pumice Valley Landfill to have the potential to generate 7.75 megagrams (Mg) per year (MG/yr) of non-methane organic carbon (NMOC). This is well below the threshold value of 50 Mg/yr established as the regulatory level to differentiate between landfills requiring active gas management and reporting and those that do not. As noted above, Mono County plans to install a complete network of landfill gas monitoring wells during the operational life of the landfill and to monitor soil-gas throughout the postclosure maintenance period.

Increases in Emissions:

Traffic to the landfill is not anticipated to increase significantly over the remaining 25-year life of the landfill (see section on Circulation); potential air quality impacts from vehicle emissions are not anticipated to be significant. Until 2023, operations at Pumice Valley Landfill will continue as they are now. Only inert debris and construction and demolition waste will be landfilled on-site. The remaining municipal solid waste will be transferred to Benton Crossing Landfill. During this period traffic is projected to increase very minimally (see Circulation section). If and when waste is diverted from Benton Crossing Landfill in late 2023, traffic will increase, but not significantly (see Circulation section).

Heavy equipment use at Pumice Valley Landfill is currently minimal. It is used on a quarterly basis to spread, compact, and cover inert debris and construction and demolition waste. Since the disposal units on-site are compacted infrequently, equipment use is minimal. Although heavy equipment use

will increase if and when the waste stream is re-directed from Benton Crossing Landfill, the use of alternative daily cover (tarps, etc.) will reduce heavy equipment activity and associated emissions.

Leachates:

The landfill does not include a base liner or a leachate collection and removal system. Generation of contact water is minimized through the application of daily cover and the diligent execution of grading practices that direct storm flows away from the active disposal area. Leachate is not collected or treated on-site.

Open Outdoor Fires:

A wood shredder is utilized at all of the County's landfills to process wood waste for diversion. Consistent with state regulations, outdoor burning is prohibited at all of the County's landfills.

Emissions from Ancillary Sources:

The only ancillary sources currently on-site are the generator for the compactor at the transfer station and the mobile wood shredder. The wood shredder is only utilized on-site two to three times per year. In January, 2003, Mono County prepared an Initial Study and Environmental Checklist for Wood Processing and Alternative Cover Frequency at Mono County Disposal Sites. At that time, GBUAPCD staff indicated that the landfill was in compliance with applicable Federal and State ambient air quality standards and that the wood shredder did not require a permit. The wood shredder is equipped with a dust suppression system to reduce the amount of dust that becomes airborne. If and when waste is diverted from Benton Crossing Landfill, the wood shredder will be utilized more frequently for the five-year period waste is landfilled at Pumice Valley.

The diesel generator that operates the transfer station compactor is operated intermittently throughout the day for a total of approximately one hour per day. The generator is housed in a below-grade housing and is equipped with a muffler. If and when waste is diverted from Benton Crossing Landfill, the compactor will not be utilized since waste will be buried at Pumice Valley Landfill during that five-year period.

General Air Quality Impacts

Short-term temporary air quality impacts may occur at the landfill as a result of construction activities related to the expansion of landfill activities. The construction of additional monitoring wells may result in a one-time air quality impact. Compliance with the provisions of the Mono County Land Clearing, Earthwork, and Drainage Ordinance (Mono County Code Chapter 13.08) will minimize construction-related air quality impacts. Those regulations require the use of erosion and pollution control devices during grading activities.

Long-term air quality impacts at the landfill will not change significantly. Long-term soil erosion impacts of the vertical expansion of the landfill are addressed in the Report of Disposal Site Information (RDSI) for Pumice Valley Landfill. Soil erosion impacts for the final grading plan are addressed in the Preliminary Closure and Postclosure Maintenance Plan (PCPMP) for Pumice Valley Landfill. Both the ongoing landfill operations and the final graded site have been designed to avoid or minimize soil erosion impacts and therefore dust-related impacts to air quality.

Dross Road and the landfill entrance road are paved to a point approximately 100 feet north of the truck scale and internal access roads are constructed from compacted asphalt grindings. Fugitive dust generation from on-site roads is minimal and the roads will be watered when necessary to prevent excessive generation of fugitive dust. Dust erosion from the soil borrow pit will also be addressed through watering when necessary.

Final cover for the landfill will include several layers of soil and a geosynthetic clay liner (GCL) overlaid with 12 inches of nominally compacted soil and three inches of wood chips to protect the final cover from the effects of wind and water erosion and rain drop impact. The 12 inches of soil over the GCL is intended to accommodate root growth for revegetation; the entire site will be revegetated with

a native seed mix during the final construction phase (see Vegetation section). Mono County has successfully used wood chips for erosion protection at several of the County's existing landfill and transfer station sites, including the Pumice Valley Transfer Station where the application of a layer of wood chips has successfully reduced blowing dust. The effectiveness of wood chips in this application will be routinely monitored and evaluated in compliance with State regulations. An alternative method of erosion control will be implemented if necessary. The potential for wind and water erosion of the final cover surface is considered negligible due to use of the wood chip layer (PCPMP, p. 6).

Potential soil erosion impacts may occur from the expansion of the landfill boundaries to the east. The expansion area will be utilized as a soil borrow pit. The majority of the soil to be excavated from the soil borrow pit will be excavated at the very end of the landfill life, when soil will be needed for cover of the waste diverted from Benton Crossing Landfill and for final cover construction on the landfill. The final design for the soil borrow area is a pit sloping to the north. The borrow pit will not have any cover placed over it. Though the pit will be lower than the surrounding landscape, there will still be some potential for dust generation and soil erosion until the site is revegetated following final closure construction (see Vegetation section).

Traffic to the landfill is not anticipated to increase significantly over the remaining 25-year life of the landfill (see section on Circulation); potential air quality impacts from vehicle emissions are not anticipated to be significant.

As discussed previously, landfill gas monitoring and landfill gas vents are included in the PCPMP for Pumice Valley Landfill. The Landfill Gas Monitoring Program will ensure that landfill gas does not cause a significant impact to air quality.

Conclusion: The operation and expansion of Pumice Valley Landfill will not result in potentially significant impacts pertaining to air quality.

Air Quality Mitigation Measures

No mitigation measures are proposed.

Air Quality Mitigation Monitoring

No mitigation monitoring is proposed.

WATER RESOURCES

Water Resources Setting. Pumice Valley Landfill is located in Mono Basin on a broad alluvial plain that slopes gently north toward Mono Lake. The landfill is located between two ephemeral drainages above Mono Lake, which is located approximately 2.5 miles north of the landfill. Rush Creek passes within approximately 0.75 miles of the northwest corner of the landfill site on its way to Mono Lake. Ground water monitoring data indicate that unconfined ground water typically occurs in unconsolidated alluvial and fluvial deposits between 248 and 268 feet below ground surface (bgs).

Bottled water is provided on-site for drinking and washing. A portable toilet is provided for landfill personnel. Restroom facilities and drinking water are available to site personnel but not to the public unless absolutely necessary. The operation and expansion of the landfill will not create the need for additional personnel; therefore, there will be no need for expanded water supplies. Supplemental analysis is not required.

Water is also used to control fugitive dust from roadways; when necessary, a water truck from the Lee Vining Road Shop, utilizing water from the Road Shop hydrant, is used at the landfill for dust control. Fugitive dust generation from the main access road and internal site roads is minimal since those roads are paved or constructed from compacted asphalt grindings. The operation and expansion of the landfill will not create the need for additional water for dust control.

Ground water monitoring wells are installed upgradient and downgradient from the landfill. These wells are intended to provide background and detection monitoring ground water quality data. Ongoing ground water monitoring occurs to determine whether landfill operations have impacted the underlying ground water. Samples are analyzed for organic and inorganic compounds with Waste Discharge Requirements established by the Lahontan Regional Water Quality Control Board. Additional ground water monitoring wells will be installed in the proposed landfill expansion area.

To promote drainage of surface water, site surfaces are graded to drain away from disposal areas. The landfill design includes perimeter and internal run-off control facilities designed to collect and control precipitation and storm flows resulting from the 100-year, 24-hour storm event.

Water Resource Impacts – Storm Water. The landfill is located approximately 800 feet northwest of SR 120(E), which effectively intercepts and either stores or diverts storm water generated in the upgradient catchment. As a result, the surface area potentially affecting the landfill property with respect to storm water generation is limited to the gently sloping and heavily vegetated land between SR 120(E) and the landfill.

Historic disposal operations appear to have been sited at the upstream end of an ephemeral drainage, now completely filled up to the northern property boundary. A second ephemeral drainage originates just southeast of the southeast property corner and flows through an existing 18-inch culvert under Dross Road and then through the borrow pit until it rejoins the natural drainage north of the landfill. The waste disposal area is situated on a relative high point between ephemeral drainages and is therefore not located in a floodplain and cannot restrict the flow of flood waters or reduce the storage capacity of a flood plain.

Run-off from within the landfill boundary and the active disposal areas is generally directed into one of two detention basins on the landfill perimeter. These basins are designed to detain design storm flows, allowing sediments to settle out, then discharge once the basin capacity has been reached. Construction of the storm water control system will occur over the operational life of the landfill. As waste placement progresses as delineated on Drawing 5 (see Appendix B), internal drainage channels will divert run-off into previously-constructed perimeter control channels and detention basins.

The final configuration of the landfill is intended to minimize the potential for erosion of the final cover due to surface run-off. The sitewide drainage control system is discussed in detail in the Preliminary Closure and Postclosure Maintenance Plan for the landfill; the final grading for the site is shown in Drawing 4 in Appendix B. The overall design includes a ridge and swale system on the top surface, closed culverts on the sideslopes, and open diversion channels along the perimeter of the waste footprint. The ridge and swale system on the top surface limits the length of sheet flow and captures surface runoff in central drainage swales before flows can concentrate and become erosive. Surface swales then route storm flows to headwall diversion berms, into overside culvert drains, then into a series of perimeter collection channels. The perimeter channels will route flows into one of two retention basins located between the waste footprint and the property boundary. The combination of surface swales, headwall diversion berms, and overside culvert drains minimize the potential for erosion of the final cover due to surface run-off.

In addition to drainage controls related to the waste fill, a retention basin will be constructed at the northwestern (down-stream) corner of the borrow pit to collect and slow surface flows generated

within that area so that transported sediments can settle out before the flows are discharged off-site. The basin will have an outlet leading to an ephemeral drainage just north of the property boundary.

The ongoing operations of the landfill and its final configuration have been designed to slow storm waters, to channel them to detention basins in order to retain sediments on-site and to minimize offsite storm water impacts. All components of the drainage system will be inspected as part of routine landfill inspections during its operating life, and at least quarterly during the postclosure period to ensure the effectiveness of the system. The drainage control system will also be inspected after each heavy precipitation event to verify the integrity of the run-off control system; any components requiring repair will be restored to design grades according to the approved plan. The operation and expansion of Pumice Valley Landfill will not result in significant storm water flow impacts.

Leachate. Pumice Valley Landfill does not include a base liner or a leachate collection and recovery system. The generation of contact water is minimized through the application of daily cover and the diligent execution of grading practices that direct storm flows away from the active disposal area.

The Lahontan Regional Water Quality Control Board (LRWQCB) adopted Waste Discharge Requirements (WDRs) for Pumice Valley Landfill in 1987. Those requirements, along with subsequent amendments, required implementation of a ground water monitoring program. Four wells are now installed at the landfill. Currently, ground water monitoring and hydrologic measurements are conducted semi-annually. The same ground water monitoring program will continue throughout the postclosure monitoring period.

Ground water monitoring has not revealed any significant impacts to ground water from the landfill. The operation and expansion of Pumice Valley Landfill will not result in significant impacts to ground water.

Conclusion: The operation and expansion of Pumice Valley Landfill will not result in significant impacts to water resources. Mitigation measures are not required.

Water Resources Mitigation Measures

No mitigation measures are proposed.

Water Resources Mitigation Monitoring

No mitigation monitoring is proposed.

HAZARDOUS MATERIALS

Hazardous Materials Setting. Household hazardous wastes received at the landfill and transfer station and any other hazardous materials discovered are temporarily stored in a hazardous waste storage locker located near the facility entrance. Wastes are separated by type and stored in designated areas within the storage locker. The locker is constructed from all-welded steel and fitted with explosion vents. Materials are either stored in their original containers or in storage tubs and placed on secondary containment shelves. Coated steel grates provide a floor surface that sits above a containment sump, resulting in three stages of containment.

The landfill also maintains an above-ground storage tank to store used motor oil for recycling. The above-ground storage tank is provided with a secondary containment system and is located within the transfer station area at the site entrance. Hazardous materials are periodically removed by County personnel and hauled to Benton Crossing Landfill for management and storage. In general, the

periodic removal of salvageable materials is coordinated at a frequency specific to each material so that the risk of fire and the potential for impacts to public health and safety are minimized.

Hazardous Materials Impacts. Until the waste stream is re-directed from Benton Crossing Landfill, the proposed operation and expansion of Pumice Valley Landfill will not increase the use or storage of hazardous materials on-site. If and when waste is diverted from Benton Crossing Landfill, all of the hazardous waste currently stockpiled and processed at Benton Crossing Landfill will be stockpiled and processed at Pumice Valley Landfill for the approximately five years that it is utilized as the County's regional landfill. The stockpiling and processing will occur as they now do at Benton Crossing Landfill (i.e., above-ground storage tanks for diesel fuel for equipment operation and a 1,000-gallon above-ground storage tank to store used motor oil for recycling). The above-ground storage tanks are provided with secondary containment systems. Gasoline, motor oil, hydraulic fluids, and other lubricants used in the daily operation of the landfill will be stored in sheds in their original containers on secondary containment platforms. Household hazardous wastes received for disposal at the landfill will be temporarily stored in hazardous waste storage buildings until they are removed from the site by licensed hazardous waste haulers. Wastes will be separated by type and stored in designated storage areas within the buildings. The buildings are constructed from all-welded steel and fitted with explosion vents. Materials will be stored in their original containers or in storage tubs, or both, and placed on secondary containment shelves. Steel grates provide a floor surface that sits above a secondary containment sump in each building.

The RDSI for Pumice Valley Landfill contains an Emergency Response Plan (Appendix H in the RDSI) that addresses potential emergencies and response activities. The RDSI also contains an Injury and Illness Prevention Program (Appendix I in the RDSI) that addresses safety issues, procedures and training programs for employees involved in the operation of the landfill. Both documents address hazardous materials dumping, storage, and spill situations and include procedures to minimize impacts associated with hazardous materials. Landfill employees are routinely trained in the details of these plans, at least annually.

Conclusion: The operation and expansion of Pumice Valley Landfill will not result in significant impacts related to hazardous materials.

Hazardous Materials Mitigation Measures

No mitigation measures are proposed.

Hazardous Materials Mitigation Monitoring

No mitigation monitoring is proposed.

IV. PROJECT ALTERNATIVES

INTRODUCTION

The CEQA Guidelines require the discussion of alternatives to a proposed project. The Guidelines specifically require the analysis of a No Project Alternative (i.e., the project does not occur) and one or more development alternatives. The development alternatives must be “reasonable” ones which “... could feasibly attain most of the basic objectives of the project... An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation” (CEQA Guidelines Section 15126.6).

The alternatives analysis focuses on alternatives that are capable of avoiding or substantially lessening significant effects of the project, even if the project objectives are impeded to some degree or are more costly. The objective of the project is to expand the property boundaries and the Public Facilities (PF) land use designation at Pumice Valley Landfill to allow for the installation and maintenance of additional environmental monitoring devices and drainage facilities, to provide sufficient soil borrow resources to meet daily, intermediate, and final cover needs for the remainder of the facility’s life and to permit a variety of landfill activities on-site to meet the needs of the waste disposal requirements of the service area through the year 2028. Meeting the project objective will require approval of General Plan Amendment 04-02 and Use Permit 34-04-09.

There are no potentially significant environmental effects of the project that are unavoidable and cannot be reduced to less than significant levels.

There are two potentially significant environmental effects of the project that, with mitigation, can be reduced to less than significant levels.

1. Geology and Soils (soil erosion impacts); and
2. Visual Resources.

There is one potentially less than significant environmental impact; mitigation measures proposed in this DSEIR would reduce that impact to the lowest feasible levels.

1. Vegetation and Wildlife impacts.

All other impact areas are not potentially significant.

A. NO PROJECT ALTERNATIVE

In this alternative, no expansion would occur to the landfill boundaries; it would remain in its present state. Soil for final cover would be obtained from an alternate source. Landfill operations would continue as they are now; the transfer station would remain in operation and inert debris and construction and demolition waste would continue to be buried at Pumice Valley Landfill. This alternative would still require the postclosure period at Pumice Valley Landfill and the maintenance of monitoring devices. It would also still require the installation of additional ground water monitoring wells and gas monitoring wells and vents at Pumice Valley Landfill.

The No Project Alternative would have the following effects in comparison to the proposed project:

- ◆ Soil erosion impacts would be reduced since the expansion area would not be used as a soil borrow pit.
- ◆ Potential impacts to wildlife would be reduced slightly since there would be no further disturbance in the expansion area.
- ◆ Visual impacts would be reduced since the ultimate landfill height would be limited and there would be no further disturbance in the expansion area.
- ◆ There would be unknown impacts related to obtaining soil for final cover from another source.
- ◆ Truck traffic would increase since soil would be obtained from an off-site source.

This alternative would only partially meet the project objective of meeting the waste disposal requirements of the service area through the year 2028 since the current disposal capacity at Benton Crossing Landfill will run out within 10 years and the proposed disposal capacity at Benton Crossing Landfill will be reached in late 2023. The primary advantage to this alternative would be reduced impacts on visual resources and soils at the project site. There would be unknown environmental effects from obtaining soil for final cover from an off-site source. Although it reduces impacts in several impact areas, this alternative could increase impacts in other areas.

B. CLOSURE OF PUMICE VALLEY LANDFILL

In this alternative, the existing landfill at Pumice Valley would cease operations and all waste would be shipped to Benton Crossing Landfill. The transfer station facilities would remain in operation at Pumice Valley. Currently, municipal solid waste from the Pumice Valley service area is shipped to Benton Crossing Landfill, while inert debris and construction and demolition waste are buried at Pumice Valley Landfill. Shipping all waste to Benton Crossing Landfill would increase the waste buried there and would shorten the estimated site life at Benton Crossing Landfill by an undetermined amount.

This alternative would still require the postclosure period at Pumice Valley Landfill and the maintenance of monitoring devices. It would also still require the installation of storm water control facilities and additional gas monitoring wells and vents at Pumice Valley Landfill. Costs of this alternative are unknown.

This alternative would have the following effects in comparison to the proposed project:

- ◆ Unavoidable visual resource impacts would be reduced since the final profile of Pumice Valley Landfill would be lower and the overall waste mass would be smaller; the site would still appear visually altered from surrounding undeveloped lands but the impact would be less severe.
- ◆ Soil erosion impacts at Pumice Valley Landfill would be reduced since substantially less soil would be required for final cover. However, similar impacts could occur elsewhere in the county, depending on where the soil was obtained for cover at the chosen landfill site.
- ◆ Impacts to wildlife would be reduced in the vicinity of Pumice Valley Landfill since there would be no working landfill to attract birds, there would be no disturbance in the soil borrow area, and there would be no heavy equipment usage to potentially affect wildlife.
- ◆ Truck traffic on US 395 could increase if more trucks were required to travel from the Pumice Valley service area to Benton Crossing Landfill.

This alternative would only partially meet the project objective of meeting the waste disposal requirements of the service area through the year 2028 since Benton Crossing Landfill is estimated to reach its site capacity in late 2023 and would meet it sooner if all waste from Pumice Valley Landfill was diverted there for burial. The primary advantage to this alternative would be reduced impacts on visual resources and soils at Pumice Valley Landfill. Burying additional inert debris and construction and demolition waste at Benton Crossing Landfill would not significantly increase environmental impacts resulting from the operation and expansion of Benton Crossing Landfill. Traffic-related impacts would increase but not significantly.

C. SHIPPING WASTE OUTSIDE OF MONO COUNTY

In this alternative, all waste generated in the County would be shipped out of the County, probably to a large municipal solid waste site currently in operation outside of Sparks, Nevada. The transfer station would remain in operation at Pumice Valley Landfill; all other operations there would stop. This alternative would require the modification of transfer facilities for the Town of Mammoth Lakes since Mammoth Lakes is the source of approximately 75 percent of the waste received at Benton Crossing Landfill and the current transfer facilities do not meet the needs for a long-haul transfer facility. Various recycling and hazardous waste items currently stored on-site at Benton Crossing Landfill would need to be stored at the transfer site until they were processed and shipped off-site. This alternative would still require the postclosure period at Pumice Valley Landfill and the maintenance of monitoring devices. It would also still require the installation of additional ground water monitoring wells and gas monitoring wells and vents at Pumice Valley Landfill. Costs of this alternative are unknown.

This alternative would have the following effects in comparison to the proposed project:

- ◆ Unavoidable visual resource impacts would be reduced since the final profile of the landfill would be lower and the overall waste mass would be smaller; the site would still appear visually altered from surrounding undeveloped lands but the impact would be less severe, especially once revegetation occurred.
- ◆ Soil erosion impacts would be reduced since substantially less soil would be required for final cover and there would be no more ongoing landfill operations for inert debris and construction and demolition waste.
- ◆ Impacts to wildlife would be reduced since there would be no working landfill to attract birds, there would be no disturbance in the expansion area, and there would be no heavy equipment usage to potentially affect wildlife.
- ◆ There could be increased truck traffic on county highways since all waste would be shipped out of the county. However, there could also be less traffic since more trips by small disposal trucks could be replaced by fewer trips by larger long-haul tractor trailers.
- ◆ The environmental impacts of locating an expanded transfer station elsewhere are unknown.

This alternative would meet the project objective of meeting the waste disposal requirements of the service area through the year 2028. Once a long-haul transfer station is constructed, it would meet the waste management needs for decades to come. However, it is unknown whether a suitable location for a long-haul transfer station could be found, acquired, permitted, and constructed within the 10-year timeframe of existing disposal capacity at Benton Crossing Landfill (or within the 20-year timeframe of proposed disposal capacity at Benton Crossing Landfill if those disposal plans are approved). The primary advantage to this alternative would be reduced impacts on visual resources. There would be unknown environmental effects from locating a long-haul transfer station to serve Mammoth Lakes. Although it reduces impacts in several impact areas, this alternative could increase impacts in other areas.

V. IMPACT OVERVIEW

GROWTH INDUCING EFFECTS

The operation and expansion of Pumice Valley Landfill will not result in any growth inducing effects. The project will not create additional employment opportunities. Operation of the landfill will utilize existing staff; expansion of the landfill will utilize contractors. Without additional employment opportunities there will be no growth inducing effects on the population or associated impacts to housing.

CUMULATIVE IMPACTS

Cumulative impact analysis in an EIR must consider “reasonably foreseeable” projects in the general vicinity. Cumulative analysis requires the evaluation of “cumulatively considerable” impacts, defined by CEQA as “the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects ...” [CEQA Section 15065(c)].

There are no additional reasonably foreseeable projects in the general vicinity that were not considered in the prior General Plan EIRs; supplemental analysis is not required.

SIGNIFICANT, UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS AND CHANGES IF THE PROJECT IS IMPLEMENTED

The operation and expansion of Pumice Valley Landfill would result in no potentially significant environmental effects of the project that are unavoidable and cannot be reduced to less than significant levels.

The operation and expansion of Pumice Valley Landfill would result in two potentially significant environmental effects of the project that, with mitigation, can be reduced to less than significant levels.

1. Geology and Soils (soil erosion impacts); and,
2. Visual Resources.

The operation and expansion of Pumice Valley Landfill would result in one potentially less than significant environmental impact; mitigation measures proposed in this DSEIR would reduce that impact to the lowest feasible levels.

1. Vegetation and Wildlife impacts.

All other impact areas are not potentially significant.

VI. GLOSSARY

ADC	Alternative daily cover.
BGS	Below ground surface.
BLM	Bureau of Land Management.
C & D	Construction and Demolition waste, e.g., concrete, lumber. Title 14, CCR, Division 7, Chapter 3, Definitions section. 17225.15. "Construction and Demolition Wastes" include the waste building materials, packaging and rubble resulting from construction, remodeling, repair and demolition operations on pavements, houses, commercial buildings and other structures. Title 14, CCR, Division 7, Chapter 3, Article 5.9. 17381(e). "Construction and Demolition Debris", or "C&D Debris" is solid waste that is a portion of the waste stream defined as "construction and demolition wastes," as defined in Section 17225.15 of Article 4 of this Chapter, and means source separated or separated for reuse solid waste and recyclable materials, including commingled and separated materials, that result from construction work, that are not hazardous, as defined in CCR, Title 22, section 66261.3 et seq., and that contain no more than 1% putrescible wastes by volume calculated on a monthly basis and the putrescible wastes do not constitute a nuisance, as determined by the EA. (1) C&D debris includes only the following items which meet the above criteria: (A) components of the building or structure that is the subject of the construction work including, but not limited to, lumber and wood, gypsum wallboard, glass, metal, roofing material, tile, carpeting and floor coverings, window coverings, plastic pipe, concrete, fully cured asphalt, heating, ventilating, and air conditioning systems and their components, lighting fixtures, appliances, equipment, furnishings, and fixtures; (B) tools and building materials consumed or partially consumed in the course of the construction work including material generated at construction trailers, such as blueprints, plans, and other similar wastes; (C) cardboard and other packaging materials derived from materials installed in or applied to the building or structure or from tools and equipment used in the course of the construction work; and (D) plant materials resulting from construction work when commingled with dirt, rock, inert debris or C&D debris.
CIWMB	California Integrated Waste Management Board.
CNDDDB	California Natural Diversity Data Base
DFG	California Department of Fish and Game.
EA	Enforcement Agency; for this project, the Mono County Health Department.
HHW	Household Hazardous Waste.

Inert Debris	<p>Title 14, CCR, Division 7, Chapter 3, Article 5.9.</p> <p>17381(k). "Inert Debris" means solid waste and recyclable materials that are source separated or separated for reuse, do not contain hazardous waste (as defined in CCR, Title 22, section 66261.3 et seq.) or soluble pollutants at concentrations in excess of applicable water quality objectives and do not contain significant quantities of decomposable waste. Inert debris may not contain more than 1% putrescible wastes by volume calculated on a monthly basis and the putrescible wastes shall not constitute a nuisance, as determined by the EA. Gravel, rock, soil, sand and similar materials, whether processed or not, that have never been used in connection with any structure, development, or other human purpose are not inert debris and may be commingled with inert debris.</p> <p>(1) "Type A Inert debris" includes but is not limited to concrete (including fiberglass or steel reinforcing bar embedded in the concrete), fully cured asphalt, glass, fiberglass, asphalt or fiberglass roofing shingles, brick, slag, ceramics, plaster, clay and clay products. Type A inert debris is waste that does not contain soluble pollutants at concentrations in excess of water quality objectives and has not been treated in order to reduce pollutants. The board, upon consultation with the State Water Resources Control Board, will determine on a case by case basis whether materials not listed in this subdivision qualify as Type A inert debris.</p> <p>(2) "Type B inert debris" is solid waste that is specifically determined to be inert by the applicable RWQCB, such as treated industrial wastes and de-watered bentonite-based drilling mud, but excluding Type A inert debris.</p>
JTD	Joint Technical Document for Pumice Valley Landfill comprised of the Preliminary Closure and Postclosure Maintenance Plan (PCPMP) and the Report of Disposal Site Information (RDSI).
LADWP	Los Angeles Department of Water and Power.
LRWQCB	Lahontan Regional Water Quality Control Board.
Monofill	A disposal cell specifically set aside for burial of one type of waste. These are commonly used for waste tires, asbestos waste, dead animals, and similar types of waste that the operator or regulator wants to keep segregated from the public or main working face. They are often a small trench or hole excavated in native soil at the landfill perimeter, but can also be an area set aside on top of the former disposal area.
MSW	Municipal Solid Waste.
PCPMP	Preliminary Closure and Postclosure Maintenance Plan, a document required by the State for each landfill.
RDSI	Report of Disposal Site Information, a document required by the State for each landfill.
SWFP	Solid Waste Facility Permit, issued by the California Integrated Waste Management Board for each landfill and enforced by the Mono County Department of Health.
TPD	Tons per day.
VOCs	Volatile organic compounds.

VII. REFERENCES

REFERENCES CONSULTED

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Greater Sage-Grouse Conservation Plan for the Bi-State Plan Area of Nevada and Eastern California. June 2004.
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- California Department of Transportation, District 9, Office of Systems Planning
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- Connelly, J.W., S.T. Knick, M.A. Schroeder, and S.J. Stiver. 2004. **Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats.** Western Association of Fish and Wildlife Agencies. Unpublished Report. Cheyenne, Wyoming.
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Mono County Public Works Department

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Initial Study for Wood Processing and Alternative Cover Frequency at Mono County Disposal Sites. January, 2003.

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Rowland, M. M. 2004. **Effects of Management Practices on Grassland Birds: Greater Sage-Grouse.**

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Archaeological Survey of Pumice Valley Landfill and Proposed Expansion. Letter dated November 18, 2001.

ORGANIZATIONS & PERSONS CONSULTED

California Department of Fish and Game

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US Bureau of Land Management

Terri Russi (personal communication with Haven Kiers, Mono County Planning Intern)

REPORT PREPARATION

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VIII. APPENDICES

APPENDIX A

TECHNICAL STUDIES

1. **Botanical Survey of Proposed Benton Crossing Landfill and Pumice Valley Landfill Expansion Areas, Mono County, California.** Mark Bagley. 2002.
2. **Wildlife Surveys Mono County Landfill Expansion Sites.** JBR Environmental Consultants, Inc. 2001.
3. **Archaeological Survey of Pumice Valley Landfill and Proposed Expansion.** Trans-Sierran Archaeological Research. Letter dated November 18, 2001.

APPENDIX B

FIGURES AND REDUCED DRAWING SET

1. Figure 2.1, Land Use/Zoning Map
2. Drawing 1, Title Sheet and Location Map
3. Drawing 2, Existing Topography and Facilities
4. Drawing 3, Final Grading Plan
5. Drawing 4, Fill Sequencing Plan
6. Drawing 5, Cross-Sections
7. Drawing 6, Hydrologic Sub-Area Layout
8. Drawing 7, Details, Sheet 1 of 2
9. Drawing 8, Details, Sheet 2 of 2

APPENDIX C

NOTICE OF PREPARATION AND COMMENTS

1. Notice of Preparation.
2. Comments in Response to Notice of Preparation.
3. Comments from 11/10/04 scoping meeting at Lee Vining Community Center.

Notice of Preparation and Environmental Scoping Meeting
Pumice Valley Landfill – Supplemental Environmental Impact Report
Lee Vining, Mono County, California

Date: October 26, 2004

To: State Clearinghouse, Responsible Agencies, Neighboring Landowners, Interested Parties

From: Mono County Community Development Department / Planning Division

Re: Notice of Preparation of a Supplemental (or Focused) Environmental Impact Report and
Notice of an Environmental Scoping Meeting

As the lead agency, Mono County will prepare a Supplemental (or Focused) Environmental Impact Report (EIR) for the project described below. Comments about the extent and content of the Supplemental (or Focused) EIR are being sought. Responsible agency comments should focus on environmental information related to statutory responsibilities in connection with the project. Agencies may use the Supplemental (or Focused) EIR prepared by Mono County when considering subsequent permit approvals for the project. Agencies and the public are invited to attend the following:

Environmental Scoping Meeting
Wednesday, November 10, 2004, 3:30 p.m.
Lee Vining Community Center

This scoping meeting is one of the first steps in the environmental review process for the project. The scoping meeting is intended to help determine the scope and content of the Supplemental (or Focused) EIR; comments about the pros and cons of the project will be considered at future public hearings. The draft Supplemental or Focused EIR is expected to take approximately two months to prepare, and will likely be available for public review in early January, 2005. Formal public hearings regarding the Supplemental or Focused EIR will likely be held in May or June 2005, with the actual date, time, and place announced prior to then.

The project location and description are found below. A copy of the proposed permit documents will be available for viewing on the County's web site at www.monocounty.ca.gov. Copies of this notice, the General Plan Amendment Application, and proposed permit documents are also on display at the Lee Vining and Bridgeport libraries, as well as at the offices of the Mono County Department of Public Works (74 North School Street, Bridgeport, CA 93517, phone: 760-932-5440) and at the Bridgeport and Mammoth Lakes offices of the Community Development Department (see letterhead). Copies of the above documents may be purchased (at a cost of \$0.05 per page) at the Department of Public Works.

Due to the time limits mandated by State law, responses about the content of the Supplemental or Focused EIR must be sent at the earliest possible date, but not later than 30 days after receipt of this notice. Responses may also be submitted at the scoping meeting. Please mail comments to the **Mono County Planning Division, Attention: Pumice Valley Landfill EIR, P.O. Box 347, Mammoth Lakes, California 93546**. E-mail responses may be sent to commdev@mono.ca.gov. Agencies are asked to provide the contact person's name and telephone number.

Project Application: General Plan Amendment #04-04

Pumice Valley Landfill
March 2005

- Applicant:** Mono County Department of Public Works
74 North School Street / P.O. Box 457
Bridgeport, California 93517
- Project Location:** The Pumice Valley Landfill is located at 200 Dross Road, approximately 1.8 miles east of the junction of State Highway 120(E) and U.S. Highway 395, south of the community of Lee Vining in the Mono Lake Basin of central Mono County. The 40-acre site occupies the NW¼, NW¼ of Section 36, Township 1 North, Range 26 East, MDB&M. A vicinity map is presented on the attached reduced Drawing 1.
- Project Description:** The Pumice Valley Landfill currently receives an annual average of 4.4 tons per day of non-hazardous municipal solid waste during a 202-day operating schedule, with a peak loading rate of up to 110 tons per day, which may occur on an infrequent basis when required by local construction projects. The site includes a small-volume transfer station that has been constructed at the southwest corner of the property. This transfer station, which is permitted separately from the landfill, receives an annual average of 2.8 tons per day of non-hazardous municipal solid waste during the same schedule, with a peak loading rate of up to 30 tons per day. The total combined waste stream of both operations averages 7.2 tons of waste per day on an annual average.
- The purpose of the project is the expansion of property boundaries and the corresponding General Plan Amendment to incorporate the new property boundaries. In addition, the project involves an increase in site disposal capacity within the existing waste footprint, which will result in an increase in the estimated remaining site life.
- The project contemplates a contingency scenario in which the waste stream from the County's current regional landfill would be diverted to the Pumice Valley Landfill for a five-year period beginning in January, 2024. Design and planning provisions have been made should the Pumice Valley Landfill be needed to provide countywide disposal capacity as the County's regional landfill after the Benton Crossing Landfill reaches the predicted end of its life in December, 2023. This planning approach is intended to account for any unforeseen circumstances in the event a new regional landfill has not been permitted in the time necessary.
- The Supplemental or Focused EIR will also provide project environmental information for other state and local agencies when evaluating their issuance of a revised solid waste facilities permit and revised waste discharge requirements, which are being considered to bring them consistent with current operations and state regulations governing solid waste landfill operation. The project will also address operational practices and the proposed installation of environmental controls and other facilities. The enclosed reduced copies of drawings 2 through 5 from the permit plan set present existing and proposed site conditions, respectively.
- The Pumice Valley Landfill currently resides on a 40-acre parcel owned by the Los Angeles Department of Water and Power and leased to Mono County for purposes of landfill operation and cover soil excavation. Mono County proposes to expand the property by approximately 10 acres to the

east of current boundaries. Property expansion will provide sufficient soil borrow resources to meet daily, intermediate, and final cover soil needs for the remainder of the facility's life. Property expansion will be on land owned by the Los Angeles Department of Water and Power, which is currently designated "OS – Open Space." The proposed project will extend the General Plan designation of "PF – Public Facilities" from the existing landfill property to correspond to the expanded property. There are no residences within one mile of the facility; the only structure within that range is a scalehouse at the quarry on the adjacent parcel to the southwest.

The existing waste footprint encompasses an estimated 23.9 acres of unlined disposal area. The proposed design for the final landfill configuration consists of a vertical fill over the existing waste footprint and does not propose lateral expansion beyond its limits. The approved 1995 closure plan presents perimeter slope heights ranging between 12 feet and 21 feet; the proposed design presents perimeter slope heights ranging between 12 feet and 42 feet. The approved fill capacity for the Pumice Valley Landfill is currently 347,112 cubic yards of waste and cover soil; the proposed design results in an estimated capacity of 701,410 cubic yards for waste and cover soil. The proposed total airspace capacity, including in-place waste and cover soil and final cover volume, is 818,840 cubic yards.

Construction activities that will be evaluated by the Supplemental or Focused EIR include the installation of landfill gas vents, landfill gas monitoring wells, and ground water monitoring wells, all of which are proposed to supplement the existing environmental monitoring network upon site closure.

Operational activities that will be evaluated include: 1) the use of state-approved alternative daily cover methods such as synthetic tarps, wood chips, and spray-applied cementitious products; 2) the implementation of an alternative frequency of cover placed in the construction and demolition disposal area; and, 3) the collection and temporary storage of household hazardous wastes removed from customer loads as part of a load-checking program.

The landfill is not served by any utility companies – on-site utilities include: 1) drinking and wash water furnished by five-gallon bottles and dispenser from a local vendor; 2) a portable toilet that is pumped regularly; 3) solar panels and battery packs for the operation of the truck scale and printer; and, 4) a power generator used to operate the transfer station's stationary compactor. Fire protection services are provided by the Lee Vining Fire Protection District and the California Department of Forestry, Owens Valley Unit. Primary vehicular access to the site is via U.S. Highway 395 to Highway 120(E), then Dross Road.

Potential Impacts:

Environmental issues expected to be analyzed in the environmental document include: geologic, hydrogeologic, cultural, wildlife, botanical, circulation, noise, visual, water resources, public service impacts, and others.

ISSUES OF CONCERN RAISED AT SCOPING MEETING FOR PUMICE VALLEY LANDFILL EXPANSION

11/10/04 Lee Vining Community Center

Public Services

- Fire outbreak possible because of woody debris in landfill; possibility for combustion elsewhere in landfill?

Biological Resources

- Impact on sage-grouse populations. Make sure this is thoroughly studied in EIR.
- Benton Crossing landfill can get up to 400 tons of garbage in a day at peak times. If Benton Crossing Landfill closes in 20 years, how will this affect Pumice Valley Landfill?

Visual Resources

- Will the landfill blend with surrounding/existing terrain?
- Area is located adjacent to “Scenic Basin.” Will proposed landfill be seen from scenic basin?
- Visual quality analysis should be conducted to see what proposed landfill would look like at full build-out (take photos from various viewpoints and insert simulations of landfill).
- Are there any proposed new developments in the area? If so, will the landfill be visible to them?

Noise

- Heavy equipment in the area every 3 or 4 months. Will noise from the heavy equipment disturb the sage-grouse and other wildlife? Will increased noise levels be perceptible to nearby residents?
- Quarries on nearby sites already make lots of noise. Will increased landfill noise even be perceptible?

Air Quality

- Effect of dust from equipment, etc.

Circulation

- Would 120 East be opened to take on extra traffic?
- Current traffic load is approximately 10 vehicles a day. If Benton Crossing Landfill closes, traffic will increase by 4 or 5 times that.

Water Resources

- How would proposed expansion affect off site systems (rivers, etc.)?

Other

- Increased county population growth could lead to a greater than predicted impact on the landfill. How can this be accounted for?

Alternatives

- No project.
- Determine feasibility of putting landfill at another site.
- Close Pumice Valley Landfill and use Benton Crossing Landfill exclusively.
- Truck all waste out-of-state or out-of-county.